Journal Of Indian Health Psychology

Vol.9 2014 No.1-2

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ISSN: 0973-5755
Vol. 9, No. 1, September, 2014

No. 1-2

Journal of Indian Health Psychology

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JIHP *Journal of Indian Health Psychology*

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Journal of Indian Health Psychology

VOL. 9, NO. 1, September, 2014

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International Peer Reviewed & Refereed Journal

Journal of Indian
Health Psychology

VOL. 9, NO. 2, March, 2015

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EDITORIAL

The present issue of the Journal of Indian Health Psychology includes eleven research articles and a book review. This issue is devoted diverse kind of empirical as well as theoretical investigations in the field of health psychology.

The first article by Pooja and Deepti Hooda explores the relationship of Forgiveness and Wellbeing in/across three generation. Alena Slezackova & others in their article deals with the flow experience, well-being and achievement motivation in recreational athletes. Himani Jain and Rohtash Singh found that psychological capital dimensions are positively correlated with adjustment and negatively correlated with depression. Psychological Capital also plays a significant role in influencing adjustment and Combating depressive symptoms among health care professionals. The next article enlisted examined the association between general health status, social support and psychological well being in Kashmiri migrants currently residing in migrant camps. The following study enlisted in the current issue by Neeraj Chaudhary studied the effect of sex, family type and CHD on stress and social support. The next article in the list highlighted some of the issues and challenges worth considering while attempting integrated approach involved in diabetic management and mental Health of diabetic patients. Shilpi Singh and Anubhuti Dubey studied coping and wellbeing in infertile males and females. The article also dealt with identified gender differences in coping with infertility by male and female. In the next article, Alpna Agarwal and Anshu Agarwal found that male cardiac patients use more approach coping and less avoidance coping strategies in comparison to female cardiac patients. Suman Balhara and Nov Rattan Sharma studied positive and negative emotions in healthy controls and CVD patients. Malhotra and Thapa article explores emotional aspects of caregivers of mentally ill. The article helps in increasing the understanding about emotions of the caregivers (family members) of mentally ill and in designing family services tailored to meet the needs of such families. Archana Shukla and Shilpa Singh in their research article aimed to find out the perceived self-other relatedness among MSM population (MEN–SEX-WITH-MEN). Swathi and Shanthisree found significant differences in the level of depression among normal and

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differently- abled people but no significant differences in their level of personal effectiveness. A book review of Psychological correlates of Cardiovascular diseases by Anil Kumar has been included in this issue.

Editors are grateful to all the investigators/authors of the research articles, referees and book reviewer for their valuable inputs.

Editors

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EDITORIAL

The *Journal of Indian Health Psychology* is devoted to interdisciplinary researches in the field of Health Psychology and provides a platform for communication among health professionals. The present issue of the journal includes eleven articles and a book review. All the articles empirical as well as theoretical are related to key issues of today's scenario. The journal aims at promoting and managing health by applying psychological principles.

In the article section, P.C. Mishra and Swati Pathak emphasize the importance of social support and social network in cervix cancer patients. The article also suggests that the psychosocial interventions should focus on creating supporting environment and supportive care. The next article of this section by Asher Andrew, Vincent Kallavarapu, Marlyn Thomas and Sunayana Swain express the need for understanding the communication, based on the bidirectional approach of communication, between doctor and patient in the present context of health care and management. This article also draws the attention to the fact that the need of the hour is acknowledging and training the health professionals in effective communication skills leading to improved health care system.

The findings of the first article in the research section by Divya Singh, Bipin Kumar, Anjana Mukhopadhyay and Anup Singh, conveys the message to encourage the HIV-infected individuals to rise above their feeling of self-hatred, which deters them from disclosing his or her HIV status and making them to suffer the consequence of denied support, emotionally, financially, physically and socially, that helps to lead a better life. The next two articles focus on wellbeing of youth, Suneesh M.S., HridyaV.M and Sukanya. B. Menon concluded that managing stress and enhancing self-regulatory behavior provide a better psychological wellbeing among youth. Rekha, Midha and Ritu Rani report that emotional adjustment and home adjustment are potent predictors of well-being of young adults.

B.S. Sandhu and Tarika Sandhu report that Rorschach protocols of creative individuals in both the fields viz sciences and literature reveal that at the same level of creativity individuals subjective experience of well being does contribute to the direction, quality and output of creatives in both fields.

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Two articles in this section focus on Diabetes Type 2 patients. Kadambari, Swati Singh and Deepti Hooda found that internal health locus of control significantly predicts adherence to medication. Musaddiq Jahan report that diabetic type 2 patients whose blood sugar level are under control, have higher internal health locus of control and are more compliant with medical regimen. Females with blood sugar level under control are more compliant to their medical regime than their male counterparts. No gender difference on health locus of control and compliance to medical regime in uncontrolled diabetes patient.

Renu and NovRattan Sharma aim to assess relationship between functioning of emotion and positive health. They observed a significant relation between the two variables. Naved Iqbal, Mehfooz Ahmad, Sheema Aleem and Divya Mudgil reveal that the experients of paranormal phenomena have more manic, dissociative, schizytypal, anxiety, depression as compared to non experient group. The last article in this section by Mohammad Imran Khan and Abhay Kumar Srivastava deals with Re-validation of the recovery from illness scale.

Editors express their gratitude to all the investigators/authors of the articles, referees and book reviewer for their valuable inputs. Editors do not owe to the data and ideas incorporated in the articles to which the contributors are solely responsible. Commentaries and reactions may be addressed to them directly.

Editors

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INTERNALISED STIGMA AND QUALITY OF LIFE IN PEOPLE LIVING WITH HIV

Divya Singh, Bipin Kumar**, Anjana Mukhopadhyay*** and Anup Singh*****

ABSTRACT

HIV/AIDS is recognised as a highly stigmatized disease which negatively influences the well-being of people living with HIV/AIDS. In the present study, an attempt has been made to compare the quality of life across different high, moderate and low levels of internalized HIV- stigma. In this cross-sectional study, a total number of 100 HIV- infected individuals already enrolled in ART centre, Sir Sundar Lal Hospital, Banaras Hindu University, Varanasi, India, were taken as subjects. The Internalised Stigma Index and Hindi version of WHOQOL-BREF were used to assess the quality of life in high, moderate and low levels of internalized stigma among HIV infected individuals. One-way analysis of variance followed by post hoc tukey test was used to compare the effect of internalised stigma categories on each domain of quality of life. It was found that physical quality of life, psychological quality of life, and environmental factor differed significantly across various internalised stigma level. Whereas, social relationship domain of quality of life differ significantly only in low and high internalised stigma category and no significant difference was found between low and moderate internalised stigma category. The finding of the present study conveys an encouraging message to HIV-infected individuals to rise above their feeling of self-hatred and lead a better life.

Keywords Stigma, HIV, AIDS, Quality of life

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INTRODUCTION

Since the discovery of AIDS in 1981, it has been recognised as disease associated with fear, denial, discrimination and stigma (Parker & Aggleton, 2003). HIV/AIDS is perhaps the most stigmatized medical condition in the world (Crawford, 1996; Peters, den Boer, Kok, & Schaalma, 1994). HIV/AIDS-related stigma is prevalent in the lives of people living with HIV. It's almost a universal phenomenon, although they manifest differently and in varying degrees in different cultural setting.

Discussion of stigma, particularly in relation to HIV/AIDS often begins with Goffman's (1963) definition of an attribute that is "significantly discrediting". Herek et al. (1998) defines HIV stigma as a socially shared knowledge about the devalued status of people living with HIV. It is manifested in prejudice, discounting, discrediting and discrimination directed at people perceived to have HIV/AIDS, and the individuals, groups and communities with whom they are associated. Studies on HIV/AIDS stigma highlights different forms of stigma as experienced by people living with HIV/AIDS: Enacted stigma, Perceived stigma (Berger, Ferrans & Lashley, 2001; Scambler & Hopkins, 1986; Steward et al., 2008), Vicarious stigma (Steward et al., 2008) and Internalised stigma (Berger, Ferrans & Lashley, 2001; Lee, Kochman, & Sikkema, 2002; Steward et al., 2008).

Each of these forms of stigma are differently related to psychological, behavioural, and health outcomes (Earnshaw & Chaudoir, 2009). Among these kinds of stigma internalized stigma may have even more severe consequences than perceived or enacted stigma. Internalized stigma includes negative beliefs, views and feelings towards HIV/AIDS and oneself (Lee, Kochman, & Sikkema, 2002). In this case individual's self concept becomes congruent with the stigmatizing responses of others and they accept their discredited status as valid (Jones et al., 1984; Herek, 2008) results in feeling of self-hatred. Lee, Kochman, and Skikema (2002) found that internalized stigma is experienced by majority of people living with HIV/AIDS. Results of studies showed that internalized stigma is likely to make HIV-infected individuals more sensitive towards both actual and anticipated rejection and stigmatization by others, which deters them from disclosing their serostatus to others (Chesney & Smith, 1999), discourage people living with HIV/AIDS (PLWHA) from seeking care (Malcolm et al., 1998) and may increase the levels of their loneliness compared to the general population (Vance, 2006; Ware, Wyatt, & Tugenberg, 2006).

PLWHA who feel stigmatized also feel anxiety, depression, and alienation, and these feelings of anxiety, depression, and alienation are associated with disruptions in normal social relationships (Crandall & Coleman, 1992). All these are likely to affect HIV-positives ability to effectively manage their disease.

With the introduction of antiretroviral therapy HIV infected men and women are living longer, hence enhancing quality of life (QOL) is an important area of

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concern for both, health care provider and researchers. Quality of life is a term that is popularly used to convey an overall sense of well-being and includes aspects such as happiness and satisfaction with life as a whole. Quality of life is a multidimensional concept that refers to the individual's perception of their position in the context of culture and value system in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging complex context shaped by an individual's physical health, psychological health, social relationships and environmental factor (WHO, 1995). This definition reflects the view that quality of life refers to subjective evaluation, which is embedded in a cultural, social and environmental context.

A number of studies that centred on the quality of life of HIV-positive individuals using different types of QOL measuring tools have shown that socio-demographic characteristics, such as age (liu et al., 2006; Molassiotis, Callaghan, Twinn, & Lam, 2001), gender (Griffin, Rabkin, Remien & Williams, 1998; Mrus et al., 2005; Starace et al., 2002), marital status (Nojomi, Anbary, & Ranjbar, 2008), education (Murri et al., 2003; Wachtel et al., 1992), income (Wig et al., 2006), employment status (liu et al.,2006; Nojomi, Anbary, & Ranjbar, 2008) and disease related variables such as disease stage (Griffin, Rabkin, Remien & Williams, 1998; Lubeck & Fries, 1997), opportunistic infection (Basavaraj, Navya, & Rashmi, 2010), CD4 count (Nirmal, Divya, Dorairaj & Venkateswaran, 2008) as well as the use of highly active antiretroviral therapy (HAART) (Liu et al., 2006) and side effect of these treatments (Burgoyne & Tan, 2008), were reported to have a significant impact on the quality of life of PLWHA. But, there is a great variability in the reported findings regarding these relationships.

The increase in number of symptoms and degree of severity has been identified as an important predictor of well-being of people living with HIV/ AIDS (Bing et al., 2000; Lubeck & Fries, 1993). Apart from physical deterioration, HIV/AIDS patients also struggle with numerous psychosocial problems such as stigma, poverty, depression, substance abuse, and culture beliefs which can affect their quality of life (Aranda- Naranjo, 2004). In India, six important themes that emerged in the three centres *i.e.*, Delhi, Banglore, & Chennai, as being important for quality of life were: Access to health care, stigma, sexuality issues, death, body image and spirituality (Chandra, Saxena & Kumar, 2000). Swindells et al. (1999) have found that health related quality of life in HIV-infected person is determined by satisfaction with social support, degree of hoplessness and coping style.

The literature has provided substantial evidence of the negative influence of internalized HIV/AIDS-related stigma in the lives of PLWHA. Despite the potential significance of internalized HIV stigma in the lives of PLWHA, this concept received less attention from both, researchers and programme planners (Brouard & Wills, 2006; Crandall & Coleman, 1992). A better understanding of the effects

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of internalized stigma on PLWHA is required to reduce this and to minimize its deleterious effects on the QOL of people living with HIV/AIDS. Thus, the present study aim to assess the quality of life across different level of internalized HIV- stigma (*i.e.*, High, Moderate and Low).

In lieu of this objective, it has been hypothesized that high internalised stigma category would score lower on all domains of quality of life than moderate and low internalized stigma category.

METHODOLOGY

Sample

This is a cross-sectional study. The study sample consisted of 100 HIV positive individuals enrolled at ART Centre, Sir Sundar Lal Hospital, Banaras Hindu University, Varanasi. The inclusion criteria included (1) documented status of HIV positive (2) on Highly Active Antiretroviral Therapy (HAART) for at least six months (3) minimum of 18 years of age (4) ability of writing, reading and speaking Hindi (5) having no history of drug abuse and alcoholism (6) having no history of psychiatric problems such as mental retardation (7) having no history of cognitive problems (8) willingness to provide informed consent and (9) willingness to spare the time for the interview.

Tools

Hindi version of WHOQOL-BREF (Saxena, Chandiramani & Bhargav, 1998). WHOQOL-BREF is a short version of the WHOQOL-100 and is a self-rating instrument. It includes 26 items in which 24 items cover the four main domains such as physical health (physical state), psychological health (cognitive and affective state), social function (interpersonal relationships and social roles in life) and environmental factors (relationships to salient features of the environment) and remaining two items measure satisfaction of overall health and overall quality of life. The physical domain includes three facets *i.e.*, pain and discomfort, energy and fatigue, and sleep and rest. The psychological domain includes five facets *i.e.*, positive feelings, negative feelings, learning and concentration, body image, and self-esteem. The social domain includes three facets *i.e.*, personal relationship, practical social support, and sexual activity. The environmental domain includes five facets *i.e.*, financial resources, healthcare availability, opportunities for acquiring new information and skills, opportunities for leisure, and transport. Each item uses a Likert- type five –point scale in positive direction (higher the score, higher the quality of life). The WHOQOL-BREF score demonstrated good discriminated validity, content validity, and test-retest reliability, and the questionnaire is considered a valid and reliable measure for assessing QOL profile in different population, including patients sample (WHOQOL Group, 1998).

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Internalised stigma index. Internalised stigma index is developed by Steward, Gregory, Ramakrishna, Bharat, Chandy, Wrubel and Ekstrand (2008). It is 10-item index that assess the extent to which, being an HIV-infected, they should be treated in a discriminatory manner or be a target of stigmatizing beliefs. Responses were given on a 4-point scale running from 0 (not at all) to 3(a great deal). The scale was translated in Hindi to administer on the Hindi speaking local population. Subjects having same frame of mind and speaks Hindi language require the tool in Hindi, thus the tool was transformed in Hindi by the translation method available. The translation was done by the present researcher, a bilingual expert, and a subject expert. The items were then systematically scrutinized in terms of the contents yielding generalization of human behaviour.

Procedure

Initially a proper rapport was established with the selected subject. Personal information of the subject was filled. Voluntary participation certificate was signed by the subject. Internalised Stigma Index and Hindi version of WHOOQL BREF was administered one after other on the 100 HIV patients registered in the ART centre, Sir Sundar Lal Hospital, BHU. All HIV patients were on Highly Active Antiretroviral therapy at least for the last 6 months. Subjects were either in stage-I (*i.e.*, Asymptomatic) or stage-II (*i.e.*, Symptomatic), according to the WHO Disease Staging System for HIV Infection and Disease. All participants had completed primary education, which include reading, writing and speaking Hindi fluently. Subjects having a history of drug abuse, alcoholism, cognitive problems and psychiatric problems such as mental retardation were excluded.

Data Analysis

SPSS PC+ (Version 16.0) software was used for statistical analysis. The descriptive variables such as mean and standard deviations were used. A comparison between categories was calculated using one way ANOVA followed by post hoc Tukey test.

Ethical Approval

At the beginning of each interview, written informed consent was obtained from each participant. The ethical review committee of the Institute of Medical sciences, Banaras Hindu University, Varanasi, had approved the study.

RESULT AND DISCUSSION

In the present study, majority of the sample reported experiencing some level of internalized stigma related to their serostatus. Many subjects experienced high level of internalised HIV-stigma, but few also reported experiencing no internalised HIV-stigma at all. These results are similar to the findings of Crandall and Coleman (1992), Lee, Kochman, and Skikema (2002) and Steward et al (2008) that HIV-positives personally hold mixed views about the validity of the

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HIV-stigma. Further, HIV-positive individuals experienced varying degrees of internalised stigma related to their illness, including some who experienced no internalised HIV-stigma at all.

One-way ANOVA was conducted to compare the effect of internalised stigma categories *i.e.*, high, moderate & low levels on each domain of quality of life.

TABLE 1

Quality of life across different levels of Internalised stigma

Domains of Quality of Life	*Internalised Stigma [Mean (SD)]*			*F-value (2, 97)*
	Low	*Moderate*	*High*	
Physical	27.31(2.92)[a]	24.53(3.93)[b]	20.08(3.68)[c]	36.22***
Psychological	24.53(3.36)[a]	20.16(4.49)[b]	15.22(3.96)[c]	46.98***
Social relationship	29.72(4.13)[a]	26.66(4.60)[a]	24.22(3.65)[b]	15.04***
Environmental	10.56(1.85)[a]	9.91(1.84)[b]	7.56(1.83)[c]	25.51***

***p<0.001

a,b,c,= Common superscript shows no significant difference; Post hoc test using Tukey.

The table shows that internalised stigma level *i.e.*, high(n=36), moderate (n=32), and low (n=32) differed significantly on physical quality of life ($F_{(2,97)}$= 36.22; p=0.001), psychological quality of life ($F_{(2,97)}$= 46.98; p=0.001), social relationships ($F(_{2,97)}$= 15.04; p=0.001) and environmental factor ($F_{(2,97)=}$ 25.51; p=0.001). Post hoc comparison using tukey test indicate that the low internalized stigma category differ significantly in physical QOL, psychological QOL, environment factor than moderate internalised stigma category. However, no significant difference was found between these categories in social relationship domain of QOL. Further both, low and moderate internalized stigma categories differ significantly in all domains of QOL than high internalised stigma category. The probable reason behind this is those individuals who are ashamed of their infection or blaming oneself for the illness denies their usual supports (*i.e.*, family and friends) that are available to them, according to social comparison theory (Davison, Pennebaker, & Dickerson, 2000). They also need to maintain secrecy about the illness by hiding their seropositive status to others (Chesney & Smith, 1999; Hays et al., 1993). Hiding ones status and self isolation preclude HIV-positives from both, their support network and its attendant benefits.

The present study had certain limitation such as it was done on small sample of HIV positive individuals attending a hospital setting and therefore does not represent the entire HIV positives community. Another limitation is due to the cross-sectional design of the study causal interpretations of the results cannot be made.

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In conclusion, even with its limitation this study has shown that although HIV is highly stigmatized disease, there are individual differences in the level of internalized stigma that HIV-positive people experience related to their illness. Further, internalizing of stigmatized feeling accentuates the problem of stigma which negatively influences the quality of life in HIV-infected men and women. Thus, finding of present study convey an encouraging message to HIV-infected individuals to rise above their feeling of self-hatred which deters them from disclosing his or her HIV status and making them to suffer the consequence of denied support, emotionally, financially, physically and socially that helps to lead a better life. It also cautions researcher and programme planner, highlighting the need for more work in order to determine the factors that either mitigate or heighten the internalised stigma experience by people living with HIV as well as its negative effects. The findings also support the need to focus interventions on altering self stigmatizing attitudes and enhancing coping skills.

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EFFECT OF STRESS AND SOCIAL SUPPORT IN CERVIX CANCER PATIENTS

P.C. Mishra and Swati Pathak***

ABSTRACT

Cancer of the cervix is a significant public health problem globally, especially in developing countries where it is the most common cancer in women. The psychological impact of cervical cancer is also significant. Each patient experience a range of practical, psychological and emotional challenges as a result of their diagnosis and treatment related adverse effects. In early stages it may be treatment that causes most stress, rather than the effects of the disease itself. This may impair the individual's coping abilities. Women with cervix cancer pass through a period with significant life changes that require immense psychological and social support. The present theoretical paper is an attempt to understand the effects of stress and social support in cervix cancer patients.

Keywords: Cervix Cancer, Stress, Social Support.

INTRODUCTION

Cancer of the cervix is a significant public health problem globally, especially in developing countries where it is the most common cancer in women. Developing countries bear a disproportionate burden of the disease, experiencing age standardised mortality rate that are twice those experienced in developing countries. Every year, approximately, half a million new cases of cancer of the cervix are reported globally, 80% of which occur in developing countries, where the disease is also the leading cause of cancer related death among women (Sankaranarayanan, Budukh & Rajkumar, 2001). According to IARC estimates,

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mortality from cervical cancer is expected to witness a 79% increase from 74,118 deaths in 2002 to 132,745 deaths by 2025 (National Cancer Registry Programme, 2009, WHO 2004).

Cervical cancer is caused by the sexually transmitted HPV, which is the most common viral infection of the reproductive tract. Almost all sexually active individuals will be infected with HPV at some point in their lives and some may be repeatedly infected. Although, there is no clear relationship between HPV & mental problems, there may be associated psychological problems such as feelings of fear, guilt, shame and anxiety. Also intrusive thoughts have been described in relation to the human immunodeficiency virus (HIV), depressive symptoms and lowered quality of life in the psychosexual fields and in sleep quality (Rose, Peake, Ennis, Pereira & Antoni; 2005).

The psychological impact of cervical cancer is also significant. Each patient experience a range of practical, psychological and emotional challenges as a result of their diagnosis and treatment related adverse effects. Each patient's life may be further disrupted by changes in role and family functioning, occupational or employment status, and financial status. Shock, fear, self-blame, powerlessness and anger are the most common emotions experienced by women diagnosed with cervical cancer (Perrin, Daley, Naoom, et.al., 2006).

A role for psychology in cancer was first suggested by Galen in AD 200-300, who argued for an association between melancholia and cancer, and also by Gedman in 1701, who suggested that cancer might be related to life disasters. 85% of cancers are thought to be potentially avoidable. Psychology therefore plays a role in terms, attitudes and beliefs about cancer and predicting behaviour, such as smoking, diet and screening which are implicated in its initiation. In addition, suffers of cancer report psychological consequences, which have implications for their quality of life. Some evidence suggests that how well patients adapt to having cancer can affect the progression of the disease. Those who have high levels of hopelessness, depression and other psychological vulnerabilities have been found to survive for shorter periods after diagnosis than others do (Brown et al., 2003; Chida et al., 2008; Watson et al., 1999) perhaps because of the effects of stress and negative emotions on immunity and other processes (Antoni et al., 2006).

The persistent activation of the hypothalamic-pitutiary-adrenal (HPA) axis in the chronic stress response and in depression probably impairs the immune response and contributes to the development and progression of some types of cancer.

In the early stages it may be treatment that causes most stress, rather than the effects of the disease itself. However, once treatment decisions and choices have been made, stress may still be important. The general process of hospitalization and surgery is known to be stressful and this may affect adversely

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the quality of the experience for some (Mathews and Rietgeway, 1981; Mumford, Schlesinger and Glass, 1982). However, over and above this, some treatments for cancer have their own problems. Surgery is often tolerated as a necessary evil because it is seen as a treatment that will root cancer out, but subsequent chemotherapy and radiotherapy can be more difficult to deal with. Agitations, withdrawal, non-engagement with treatment and unrealistic expectations of treatment have been cited as predictors of poor outcome in radiotherapy (Schmat et al. 1982).

In a recent study Montgomery et al.,(1999) reported that 30% of patients receiving radiotherapy suffered from adjustment disorder and/or stress/anxiety/ depression. Chemotherapy is also associated with high levels of anxiety and depression (Middelboe et al., 1995). Chemotherapy is often accompanied by side-effects which may include nausea and vomiting. There is some evidence to suggest that these may be influenced by psychosocial factors. Some people develop the symptoms prior to the actual treatment (anticipatory nausea and vomiting-ANV) and for some, the unpleasant side-effects are exacerbated by anxiety (Andrykwoski and Redd, 1987; Burish and Carey, 1986). Psychologically oriented stress management techniques have been shown to be effective in reducing both ANV and the frequency and intensity of nausea and vomiting during the chemotherapy itself (Burish, Carey, Krozely and Greco, 1987; Lyles, Burish, Krozely and Oldham, 1982; Morrow and Morrell, 1982).

It has also been argued that stressful life events may impair the individual's coping ability (Newell, 1999). Further analysis showed that criticism and overprotection by spouse leads to negative mood and stress (Cooley, 1999; Thotis, 1999). Hence, family and social support are necessary for the individual to acquire personal resources, the motivation to enhance, and promote development of the individual. Social support is the number of social contacts maintained by a person, or the cohesiveness of a social network (Kaplan et al., 1993). Cobb also defines social support as the perceived belonging to a social network of communication, mutual obligation where one can rely on others, and to be cared for and loved (in Day, 1999). Hence social support is present to the extent that people perceive themselves as belonging to a particular network.

Often patients face either isolation, or undesired increase in social contact at their homes. The support can be much or too little, and therefore fail to meet the patient's needs. Patients may experience too little or incorrect support because the family tends to misconceive their needs and priorities. (Tempelaar, De Haes, De Brutter, Bakker, Heuvel & van Niewenhuijsen, 1989) crowding causes tension and prevents people from experiencing needed states of privacy whereas, social isolation equally produces tension, and it is psychologically threatening (Proshansky, Nelson-Shulman & Kaminoff, 1979). Kaplan et al., (1993) suggested that chronic illness such as cancer can cause modifications in the support

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environment, or family interactions. Moreover, the patient becomes a victim as the family may not know how to behave in the presence of patient, spouses may be overly concerned, or the family may shy away from emotional involvement with someone who may not be likely to survive. (Tempelaar et al., 1989).

Summers (1998) indicated that women with positive pap smears said their partners were very upset, and this perpetuated the guilt and distress that they already had. Bergmark and others (1999) also observed that women who had cervical cancer were often single, suggesting that some relationships end as a consequence of the illness. According to Corney et al., (1992) the sexual problems in patients' marriages resulted in marked difficulties.

According to Day (1999), families with a chronically ill patient are structurally like psychosomatic families. These families, according to Meissner (in Day, 1999), tend to be rigid and repressive. The family gets to be characterised by weak ego boundaries between members, over- protectiveness, rigidity of roles and rules, as well as lack of conflict resolution. Hudgens (in Day, 1999) also observed that the patient with chronic pain becomes dependent on the spouse or significant other. Communication between the family members also becomes indirect, social contacts are narrowed, and family members show an inability to handle anger effectively.

For married persons, it is highly likely that the spouse will be the primary source of both physical and emotional support in long- term illness. Social support is a critical resource for persons who face serious illness. Longitudinal studies of cancer patient show that social support at the time of diagnosis predicts not only better emotional outcomes but longer survival times as well (Funch & Marshall, 1983; Vachon, 1979; Weisman & Worden, 1980). A number of studies have documented that women show better emotional adjustment after diagnosis of breast cancer if their husbands are highly supportive (Jamison, Burnish, & Walston, 1987; Lichtman, Taylor, & Wood, 1984; Weisman, 1977). Among chronic pain patients, pain is less likely to lead to depression if the patient's spouse provides support (Kerns & Turk, 1984). For rheumatoid arthritis patients, support from the spouse is associated with better adjustment and the use of adaptive coping stratigies (Manne & Zautra, 1989). It is important to discover the conditions that promote and interfere with the maintenance of a supportive marital relationship throughout the course of chronic illness.

The well spouse is not always a source of comfort. Marital partners of seriously ill patients can at times contribute to the patient's distress, exacerbate problems, or reduce the patient's motivation to recover or regain important functions. Spouses are sometimes quite critical of their ill partners. As a result the ill partners engages in less adaptive coping behaviours and are less well-adjusted emotionally than those whose spouses rarely engage in criticism (Pape, Taylor & Doughrty, 1999).

Illness such as cancer generates feelings of fear and aversion, especially in those who have no previous experience with or exposure to serious illness. At

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the same time, many people believe that the most appropriate behaviour toward a cancer patient is to maintain a cheerful optimistic façade. The conflict between these two reactions may lead to ambivalence and anxiety over interacting with the patient. Contradictory verbal and non-verbal behaviour may be confusing or hurtful to the patient, who correctly detects a lack of genuiness (Wortman & Dunkel-Schetter, 1979).

At worst, fear or discomfort may cause people to avoid the patient altogether. Another source of "misfired" support may be differences in how the patient and the spouse think about the patient's disease. The patient's preoccupation with her illness may be deeply unsettling to the spouse because it threatens his more benign assessment of the threat posed by her disease (Lichtman et al., 1986). For an effective working relationship, both partners need to understand the other's way of thinking about the disease and the emotional ramification of the partner's viewpoint. Without this understanding, a continuing spiral of well-intentioned but unappreciated attempts at support and mutually increasing feelings of resentment and emotional isolation can easily result.

The spouse is frequently the first person from whom support is sought during crisis and evidence suggests that support from other sources cannot compensate for lack of intimate or marital support (Brown & Harris, 1978; Coyne & DeLongis, 1986; Lieberman, 1982; O, Hara, 1986).

Much of the research with women suffering from life threatening chronic illness like cervix cancer shows that they pass through a period of significant life changes that require immense psychological and social support. Lack of support during this phase interferes with their psychological and physical functioning. A beneficial role of social support in psychological and physical wellbeing of patients of heart surgery (Oxman & Hull, 1997), cancer (Ell, Nishimoto, Mediansky, Mantell & Hamovitch, 1992) and dialyses (Elal & Krespi, 1999) indicates a strong association between social support and improved psychological adjustments

Charmas (in Day, 1999) argues that despite disruptions and alterations caused by setbacks, complications, disability and impaired functioning, people with chronic conditions also struggle to have valued lives. Loss of status resulting from job loss, diminished income and loss of social support can have a profound effect on the patient's identity, as she is challenged to adapt to these losses. In adjusting her identity, she tries to come to terms with the constraints and limitations of the illness.

Greimel & Freidl (2000) indicated that patients undergoing radiotherapy report a high level of anxiety, emotional distress and treatment side-effects, as well as sexual dysfunction. The comparative studies showed that this emotional distress is higher in cervical cancer patients than in patients facing other threatening disease such as heart disease (Greimel & Freidl, 2000). Again, cervical and

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ovarian cancer patients became more distressed after surgery than endometrial cancer patients.

Cervical cancer has proven to be one of the illnesses that affect the sufferer most severely and negatively. However, some patients can cope effectively with resilience while others may be devastated and worn out by the illness. Stavkary (in Rosch 1984) observed that the cancer patients with a favourable outlook on life are those that are able to express strong emotions under severe stress without loss of emotional control.

It has been observed that social support mitigates the effects of stressful life events (Kaplan, Sallis & Patterson, 1993). Social relationships influence behaviours, and in turn promote desirable health outcomes. It is argued that individuals who experience significant life stress and yet have strong social support will be protected from developing psychosomatic illness associated with stress (Kaplan et al., 1993). Deprivation of social resources on the other hand results in continuing, distressful, self- rejecting feelings. Supportive social networks may thus be expected to moderate the severity of the distress associated with stressful life events like cancer through the promotion of emotional and physical support (Day, 1999). A study done by Bloom (in Day, 1999) on breast cancer indicates that social support was found to be the strongest predictor of healthy adjustment. It had an effect on coping, sense of power and diminished psychological distress, which in turn resulted in positive self- concept.

Self esteem is another factor that contributes to stress in cervix cancer patients. Self- esteem is the desire to be worthy, to love, and to be appreciated, strong, secure and loved (Samuels, 1977). The self-esteem theory asserts that individuals have a need to increase and maintain their feelings of worth, effectiveness and self- satisfaction. According to Samuels (1977), these feelings may be manifested either in a particular aspect of self- evaluation, or in global feelings. For instance, it may mean evaluating the self in terms of vaginal abnormalities or evaluating the self in terms of the overall abilities and strengths that one has. Looking at the physical abnormalities and behavioural deficits faced by cervical cancer patients, it is evident that they may have a very low self- esteem as their parts of self show discrepancy or incongruity.

The problem can however be avoided by giving what Rogers calls unconditional positive regard, which is a need every human has. Maddy (1996) argues that when a person receives unconditional positive regard from important others, she in turn regards herself positively and once this positive self regard is established it becomes autonomous and self- perpetuating. The person then becomes in a way her own significant social other (Feist & Feist, 1998). Positive self regard includes feelings of self confidence and self- worth, which results from social approval. Gender studies have indicated that women tend to be more sensitive to other people's approval. Andersen and Cyranowsky (1994)

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argue that gender differences in self esteem suggest that women are more dependent on others for self worth than men are.

Cervical cancer patients need a supportive environment that shows acceptance. They need to feel important, regardless of their illness. They also need people who respect their sexuality and individuality. In most cases, instead of getting support from their loved ones, they suffer rejection by intimate partners. Consequently, they are faced with feelings of worthlessness. The end result is incongruence that manifests itself in anxiety and threat. Thotis (in Day, 1999) suggests that the social environment provides identity and sources of positive self-evaluation, thereby improving self-esteem. Thus according to Cooley (in Day, 1999) social support should be given in the form of positive regard from significant others, as the approval and disapproval from others becomes incorporated into one's own esteem for self and an affection giving network is a positive basis for self evaluation and self acceptance.

Most researches on benefits of social support has focused on advantages acquired by individuals who receive support from others – better mental health, fewer physical health problems, even lower rates of mortality.

Looking at all these challenges facing the patients and their respective families, it is evident that there is a need for supportive care and psychosocial intervention.

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DOCTOR-PATIENT COMMUNICATION IN HEALTH CARE: ISSUES AND CHALLENGES

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ABSTRACT

Effective doctor-patient communication acts as a fulcrum in accommodating a smooth transition from doctor centered communication to the patient centered communication in the health care system. This review presents the significance of the doctor-patient communication health care scenario. The benefits and barriers of doctor-patient communication and the methods to enhance the doctor-patient communication are reviewed. The present qualitative and quantitative measurements of doctor patient communication are critically analyzed. Endorsing that communication is a two way process, this review suggests the need for quantifying the communication based on the bidirectional approach of communication.

Keywords: Doctor-patient communication, relevance, measurement, benefits, barriers.

INTRODUCTION

For a remarkable transformation of health care system, communication plays a decisive role as a cost effective strategy. Veritably, doctor–patient communication is one of the most essential dynamics in health care, affecting the course of patient care and clinical adherence (Matusitz & Spear, 2014). According to Schofield (2004), *'effective communication was a drug that could*

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be prescribed!' as the patient gains therapeutic benefit just from venting concerns in a safe environment with a caring clinician. The clinical adherence is high among the patients who have knowledge about the illness and good communication with the doctor (Conthe et al., 2014). This lays an emphasis for a patient centred approach in health communication process.

WHY PATIENT CENTRED COMMUNICATION?

Historically in medicine, there was a paternalistic approach to decide what should be done for a patient—the doctor knew the best and the patient accepted the recommendation without question. This era has come to an end, being replaced with consumerism and the movement toward shared decision-making. Patients are advised to educate and ask questions. Patient satisfaction with their care rests heavily on how successfully this transition is accomplished. Ready access to quality information and thoughtful patient-doctor discussions is at the fulcrum of this revolution.

Good doctor-patient communication has the potential to help regulate patients' emotions, facilitate comprehension of medical information, and allow for better identification of patients' needs, perceptions and expectations (van Zanten, Boulet, McKinley, DeChamplain, & Jobe, 2007; Bredart, Bouleuc, & Dolbeault, 2005; Arora, 2003; Platt & Keating, 2007). Thus the shift from doctor centered communication to the patient centered communication has begun. As a result, majority of patients are preferring family doctor over super specialist. Unfortunately Indian system has moved away from the age old practice of having family doctors.

Research evidence in the past three decades has proved that doctor-patient communication plays a pivotal role in delivery of high quality patient-centered health care (Golin, Thorpe, & DiMatteo, 2007). With the paradigm shift from biomedical to biopsychosocial approach in health care, the professional assessment of health providers also demands the skills of patient centred communication in addition to professional knowledge and technical skills (Mead & Bower, 2000). This is because the patient who suffers from a disease and seeks treatment does so in a psychosocial context.

It is essential to know if the patient is high on anxiety and depression (which impacts the cognition and thus the memory to be regular with medication), has a social support network of family and friends to aid in therapeutic adherence (that includes diet, exercise and other lifestyle factors) and the economic status to afford the medication and other treatment regimen prescribed. Such considerations can play a role in treatment line only when the doctor-patient communication in the initial consultation is effective to provide an insight to the doctor on the patient's psychosocial background. Once this is achieved, further process of health care ropes in the patient and family in major decision making which successfully enforces sharing of responsibility on both the patient and the

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doctor. Such patient-centered care through biopsychosocial approach helps in developing a therapeutic alliance between the doctor and the patient, where inputs on patients' preferences and doctors' professional advice receive considerable assessment in the best of optimal outcome. In this process the doctor and the patient develop a bond where the patients' trust in the doctor goes beyond the perceived components like clinical competence and describes the doctor as 'supportive' and 'humane'.

Thus, while endorsing the doctor as a professional, the patient also perceives the important human face in the doctor which is very essential in developing a relationship. Thus effective communication skills are required for a patient-centered approach, emphasizing on building rapport through the use of empathy, listening skills and non-verbal communication skills (Platt & Gordon, 2004). Therefore, the health communication that takes a biopsychosocial approach forms a reciprocal relationship between the doctor and the patient.

SIGNIFICANCE OF DOCTOR-PATIENT COMMUNICATION

The ultimate aim of doctor-patient communication is to improve patient's health and optimize medical care (Duffy et al., 2004). With optimal adherence, the prognosis is expected to be the best (Swain, 2013). The basic elements of doctor-patient communication are to build the relationship, create a path for the discussion between the doctor and the patient, gather information about the patient's problems and issues, and to mutually decide the plan of action to handle them (Makoul, 2001).

A substantial body of evidence shows that effective communication between the doctors and the patients can lead to positive outcomes for patients, for doctors and others. A healthy doctor-patient communication leads to creating a good interpersonal relationship, exchange of information between the doctor and patient, and facilitates the decision-making process (Ha, Anat, & Longnecker, 2010). Studies give evidence that links effective doctor-patient communication to desirable health outcomes such as improved adherence to treatment and improved prognosis (Swain, 2013), lower patient stress levels and higher physician satisfaction (Guadagnino & Branch, 2006).

INDIAN SCENARIO: A CHALLENGE

A recent Indian statistics reveal that, because of its dramatic doctor-patient ratio of 1:1800, (Deo, 2013) India is listed under countries with critical shortage of health service providers. The average time a physician interacts with a patient is progressively becoming shorter across the globe and more so in India (Thomas, Hariharan, Rana, Swain, & Andrew, 2014). While the reason in Indian scenario can be attributed to the disproportionately large number of patients the doctor has to see in a day compared to his/her counterpart in the West, one cannot ignore the fact that technology dependence in health care is compelling the

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doctors to distribute the time between the patients and computers and other electronic gadgets. This has reduced the average doctor-patient interaction time to something between two to ten minutes (Deveugele, Derese, van' den Brink-Muinen, Bensing, & Maeseneer, 2002). Groopman's (2007) study found that a patient on an average is given just 18 seconds to describe the symptoms before the doctor interrupts which greatly increases the scope of making errors in diagnosis and treatment plans. With a desirable ratio between doctors and patients, if this is the state of affairs in developed countries, with the given doctor patient ratio, the Indian scenario with respect to consultation time is anybody's guess. While this reality cannot be transformed overnight, the challenge lies in accepting this reality and optimising time management and communication within the limited time.

Demand for effective doctor-patient communication assumes added significance in the light of chronic illness replacing acute problems, which can be attributed to life style changes. The non-communicable diseases (NCDs) demand effective lifelong management. The NCDs are viewed as epidemic posing the greatest global challenge to the 21st Century (Murray & Lopez, 1996; Reddy, 2003). Collectively, NCDs account for 63% of all deaths worldwide with 80% of those taking place in developing countries (Narayan, Ali, & Koplan, 2010; WHO, 2013). According to a report by WHO (2002), it is expected that chronic diseases will account for 73% of deaths and 60% of the global disease burden by 2020, and also for major percentage of diseases and deaths in India. Treatment of NCDs, like diabetes, hypertension, asthma, cancer or HIV/AIDs demand a dire need of life style changes along with medication. This calls for skills of counseling involving the competence to motivate the patient to enhance health promoting behaviours and minimise health risk practices.

These diseases being asymptomatic are termed as silent killers. The asymptomatic characteristic of the disease is likely to prompt the patient undermine the potential dangers of non-adherence. Unless the doctor impresses upon the patient the asymptomatic nature of the disease and the devastating impact on the prognosis, it would lead to lethal consequences. It is essential that communication of the doctor includes the significance of adherence to medication, diet, exercise and self-monitoring and also highlight the alarm signals that warrant immediate medical consultation. Such communication needs to be powerful with emphasis added at right places and also must be reinforced in subsequent consultation.

QUALITY OF DOCTOR-PATIENT COMMUNICATION: IT'S CONTRIBUTIONS

Impact on Patient Adherence

Among all the consequences of doctor-patient communication, the most outstanding effect is seen in the form of increased clinical adherence in the

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patients and subsequently improved prognosis. Adherence is defined as the regularity and punctuality with which the patients takes the prescribed medication, follows the diet and exercise regimen (Hall, Willgoss, Humphrey, & Kongso, 2014). Effective communication from doctors in terms of explanation, feedback, sharing of medical data was found to have enhanced adherence in patients (Tongue, Epps, & Forese, 2005; Platt & Keating, 2007; Chen et al., 2007). Friedman et al. (2008) reported that patients who received less information from their doctors showed poor adherence. Gaps in the doctor-patient communication like uni-dimensional decision making, and physicians' lack of knowledge of patients, indicating sub-optimal communication, lead to non-adherence that adversely affects the health status of patients (Wilson et al., 2007).

Impact on Patient Mental State and Doctor-patient Relationship

The holistic approach to health care views the patient not just as a bearer of a disease, but as an individual and as a physical, psychological and social and spiritual entity. Hence apart from the treatment of the disease, the concomitant implication on affect, cognition, behaviour and other social aspects such as financial pressures and social relationships receive their due importance. In this context the impact of high quality doctor-patient communication can be perceived in all the dimensions mentioned above. Higher quality of doctor-patient communication leads to mutual understanding, patient satisfaction, trust, bilateral involvement in decision making, agreement about treatment, and patient motivation (Street et al., 2009).

Better intermediate outcomes include better adherence and self-care by patients, both of which lead to improved health outcomes (Moore et al., 2004). Effective communication is also found to reduce psychological distress in patients along with higher rate of symptom reduction and better prognosis (Golin et al., 2007). Studies have proved that direct communication and support have a significant role in reducing visits to emergency department (Bolton, Tilley, Kuder, Reeves, & Schutz, 1991) and control of chronic illness (Tildesey, Mair, Sharpe, & Piaseczny, 1996). Literature has shown that effective communication in medical treatment leads to improved health, functional and emotional status, adherence to treatment regimen, doctors' satisfaction, and reduced medical malpractice risk (Wong & Lee, 2006). Effective communication has also been shown to manage post-operative pain in surgical patients (Sugai, Deptula, Parsa, & DonParsa, 2013).

Patients seem to have a clear preference for doctors based on the quality of communication. In a study by Schattner, Rudin, and Jellin (2004), it is reported that 38% of patients selected physicians on the basis of their professional expertise while 30% selected on the basis of physicians' patience and attentiveness, informing the patient, representing the patient's interests, being truthful and

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respecting patient's preferences. Except the professional expertise, rest of the factors can be translated as outcomes of effective communication between the doctor and the patient.

Consulting the doctors high on quality of communication is found to be the key for patient satisfaction. In a qualitative study by Anden, Andersson, and Rudebeck (2005), it is reported that the patients' perception of the outcome of clinical consultation is greatly determined by the patients' understanding of communication leading to improved satisfaction. In a review study of interventions on cancer patients, the results revealed the importance of effective doctor-patient communication in promoting patient satisfaction with the health care (Bredart, Bloulec, & Dolbeault, 2005). The results of the review emphasized on the use of various strategies that improved patient satisfaction and resulted in positive health outcomes, effective doctor-patient communication being one of the major strategy.

Impact on Doctors

The positive impact is not just limited to patient benefit. The doctor is an equal beneficiary of high quality doctor-patient communication. For the doctor, the process of diagnosis involves three sequential and overlapping steps viz. data gathering, data integration and verification of diagnosis (Kuhn, 2002). Effective doctor-patient communication plays a pivotal role in collecting relevant data from the patient. It may be an exaggeration to state that this preliminary process determines the line of investigation through laboratory tests and further invasive diagnostic tests to arrive at a final diagnosis. In addition to this the studies pointed out the positive impact that good doctor-patient communication has on the doctor job satisfaction and productivity (Haas et al., 2000).

Physician satisfaction more often than not is linked to patient satisfaction with the health care service that they receive. Satisfied patients are advantageous for doctors in terms of greater job satisfaction, less work-related stress, and reduced burnout (Bredart et al., 2005). Satisfied patients are less likely to lodge formal complaints or initiate malpractice complaints on doctors (Brinkman et al., 2007).

Overall Outcome

The overall outcome of healthcare involves, democratic decision making, improved mutual trust and better doctor-patient relationship. Shared-decision making ensures shared responsibility which binds the patient to clinical adherence. Active doctor-patient communication facilitates communication of doctor's empathy to the patient. This lays the foundation for the trust in the relationship that breaks the ice facilitating the patient to unleash the fears, anxiety, and apprehension. Such interaction provides a scope for the doctor to effectively address the patients' emotions. This process helps in easing the emotional state

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of the patient. Further, the effective communication of the doctor, through information exchange enhances the knowledge base of the patient about the disease, adherence requirements, which in turn help in giving desirable direction to the health behaviour of the patient. While the doctor's communication skills contributes in the ways described above, it is also true that equal participation of the patients creates a sense of partnership and involvement in decision making. This in turn contributes to the internal locus of control. Once the internal locus of control is stimulated and reinforced, the adherence behaviour is likely to be high and sustained. One may wonder, when quality communication has such inherent advantages casting its multifaceted impact, what prevents the practice of quality communication between the doctors and patients?

BARRIERS TO DOCTOR-PATIENT COMMUNICATION

Emerging data suggest a high prevalence of communication breakdowns among physicians, patients, and important members of the health care services who assist with the diagnostic process (Gandhi, 2005; Singh et al., 2007; Sutcliffe, Lewton, & Rosenthal, 2004). In a study on patients with abnormal mammograms, one third of the women in the sample reported not to have received appropriate follow-up (Poon et al., 2004). This indicates the barriers in communication can be possibly be caused by either the doctor or the patient or both.

In the context of doctor-patient communication, various socio-economic factors like age, gender, and educational qualification are seen to affect the communication. Studies identified that patients' age is a major determinant of the doctor's quality of listening (Govender & Penn-Kekana, 2007). In a study on elderly patients, it is found that doctors tend to communicate more in a patient-centered style with patients over the age of 65 years (Peck, 2011).

With regard to the gender, studies indicated an interaction between gender and income level posing a barrier in communicative style. A study conducted by Thorson and Johansson (2004) shows that woman patients of low income and status are described shy, hesitant and limited in their knowledge. They were found to verify with their husbands, family members and neighbours rather than adhering to the doctor's perception.

While the above study reported on differential behaviour by patients of two genders, there seems to exist a reciprocal relationship between the communication of doctors and patients. Bertakis, Franks, & Epstein, (2009) revealed that the doctors were more likely to have patient-centered style of interaction with female patients in comparison to male patients, suggesting that, women are more likely than men to express their feelings and talk about psychosocial issues.

The third barrier is educational level of the patient. Patients with a higher educational level have more skills and confidence in talking to their doctors and

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tend to provide more information, ask more questions and speak longer than other patients. It was also found that highly educated patients are more expressive and opinionated. They also receive more diagnostic and health information than less educated people (Willems, De Maesschalck, Deveugele, Derese, & De Maeseneer, 2005). To sum up, it is likely that more educated, higher income and older patients receive more information because they have communicative styles that elicit information from the doctors.

It is found that hospitalized patients with limited health literacy reported poor communication in the domains of general clarity, responsiveness to patient concerns, and explanations of care compared with patients with higher health literacy (Kripalani, Jacobson, MugullaCawthon, Niesner, & Vaccarino, 2010; Katz, Jacobson, Veladar, & Kripalani, 2007).

Doctors are found to use medical jargons in their interaction with patients that is beyond the comprehension of patients. Doctor's use of complex medical language (Castro, Wilson, Wang, & Schillinger, 2007) may contribute to poor physician-patient communication. Extra care is to be taken while communicating with the patients in younger age group since younger participants have reported significantly lower level of knowledge of jargons than their older counterparts (Thomas, Hariharan, Rana, Swain & Andrew 2014). Cardiologists' communication involving jargons is, thus, not adequately reaching patients, specifically young adults. The use of such language leaves the patient confused and mystified, leading to poor comprehension of the doctor's instructions and consequently, inappropriate health behaviour that may bring about adverse health effects. A recent study on 96 preoperative patients reveals that usage of medical jargons leads to patient's dissatisfaction (Fields, Freiberg, Fickenscher, & Shelley, 2008). The usage of jargons distances the doctors from their patients and therefore it was suggested that the emphasis should be on interaction with the patients rather than telling the patients (Fields et al., 2008).

The personality factors sometimes may play a very dominant role in the quality of communication which may sometimes even camouflage the other factors such as age, gender, education, or socio-economic factors. The quality of doctor-patient communication is not singularly impacted by the patient. The doctor as the health provider has a significantly high contribution in the quality of communication.

In order to deliver patient-centered care, the physician must be equipped and educated to serve as trusted advisor, educator, and counselor, as well as medical expert, and must know how to encourage the patient's participation in the design and delivery of care. The caring component in doctor-patient communication manifests in the doctors expression of empathy, reassurance, support, positive reinforcements, psychosocial talk, sense of humour, and extension of courtesy (Beck et al., 2002). Communication is a two way process. When

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the doctor is not proactive in sharing and initiating, the patient lacks encouragement for questions. Disregard for the patient's views, incomplete sharing of medical data with the patient, guarded discussion of the treatment effects, low response to the patient's remarks, lot of interruption in patients' speech are indicators of poor sharing in doctors' communication (Beck et al., 2002). A study conducted on 167 patients who have interacted on computer with virtual physicians who are simulated to show high and low caring, the high caring was found to lead to higher patient satisfaction (Cousin, Mast, Roter, & Hall, 2012).

Patient feedback is a valid reflection of doctor's quality of communication. Often the patients are found to complain about the duration of consultation that remains inadequate and hurried (Swaminathan, 2007). The pressure is felt more in times when there is a shortage of medical personnel. Given these circumstances, the doctors tend to fasten or even cut down on the consultation time. The lack of time is a constant factor associated with the doctors about which the patients are aware (Pollock & Grime, 2002).

Research has shown that apart from the patient and doctor factors, many other phenomena like patient's personality factors, doctor's personality factors influence the communication between the doctor and the patient, *e.g.* the social status of the patient. It is beyond the scope of the present review to enlist all the possible variables involved in this complex process.

METHODS FOR ENHANCING DOCTOR PATIENT COMMUNICATION

Primarily, training sessions on communication skills for the doctors is suggested (Finset, 2012). Several studies have reported that training the doctors in communication skills to meet the biopsychosocial needs of the patients is imperative (Chatterjee & Choudhury, 2011). In its report 'vision 2015', the Medical Council of India (2007) stressed on the importance on communication skills training of the doctors. Doctors need to individualize their communication to patients based on patients' needs and desires (Lazarus, 2013).

The need of the hour is acknowledging and training the health care professionals in effective communication skills leading to improved health care system, sensitizing clinicians to respond to patients' emotional cues, encouraging doctors to communicate without/with minimal use of medical terminologies (Terpstra, 2012), facilitating feedback from the patients after consultation, accelerating the empowerment of the patients (Chana, 2012), teaching doctor-patient communication skills during undergraduate medical curriculum (Egnew & Wilson, 2010; Sommer, Rieder, & Haller, 2011), promoting listening by the doctors (Snyder, 2008; Jagosh, Boudreau, Steinert, Macdonald, & Ingram, 2011) and involving family members (Kuzari, Biderman, & Cwikel, 2013; Guenter, Gillett, Cain, Pawluch, & Travers, 2010). All these are found to contribute

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towards a correct diagnosis, enhance healing, apart from boosting the doctor-patient relationship. While doctor-patient communication is given heavy emphasis and innovative interventions are suggested to enhance the quality, the crucial question around which the entire issue revolves relates to the method of measuring the quality.

MEASUREMENT OF DOCTOR-PATIENT COMMUNICATION

Measuring communication is a challenging task. Health communication researchers have devised numerous ways to identify measure, quantify and categorize doctor-patient communication. Doctor-patient communication can be studied using qualitative and quantitative approaches. Quantitative approaches have focused on measuring aspects such as information exchange, shared decision making, patient enablement, verbal dominance, and communication control (Collins, Britten, Ruusuvori, & Thomson, 2007). In qualitative approaches, the focus of measurement is on professional responsibility and behaviour, and on details of observed and recorded communication in consultations, as well as on the structure of consultation and its phases (Collins et al., 2007). Quantitative approaches have used Interaction Analysis System (IAS), such as the Roter Interaction Analysis System (RIAS), Brown University Interpersonal Skill Evaluation (BUISE), Communication Assessment Tool (CAT), and Doctor-Patient Communication Inventory (DPCI).

The qualitative approach uses the method of coding the videotaped content of clinical consultations. The measurement comprises of both the verbal and non-verbal behaviour. The coding systems provide useful information like the extent to which patients talk in the consultation, factors influencing the interpersonal effectiveness of the health professional, such as length of consultation or continuity of care and communication competence of the doctors.

The problem with the coding systems relates to arbitrariness of relationship between coded actions. For example, it fails to connect doctor's communication style to the patient's level of information about their diagnosis, prognosis and treatment options. Further it speaks nothing about how the length of the consultation might have influenced the discussion of issues between the doctor and the patient. Further, these methods fail to capture the functional aspects related to the exchange of information about the present health status of the patient, dosage of medication, adverse effects, alarm signals, etc which contribute to a strong logical base for adherence.

Campbell, Lockyear, Laidlaw, and Macleod (2007) developed a Matched-Pair Instrument (MPI) to measure the communication skills of the doctor in terms of process and content. In a study on physician-patient communication behaviour on HIV patients in Kenya, Wachira, Middlestadt, Recee, Peng, and Braitstein (2013), reported that the MPI failed to capture the patient's role in the communication behaviours as usually the case with patient-centered communication measures.

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The major qualitative approach for analyzing doctor-patient communication is through the use of content analysis. Conversation Analysis (CA) is one such method of content analysis that measured the communication using themes such as the themes that discussed the interrelationship between the patient's concerns and the biomedical agenda. In CA research, the consultation is regarded as consisting of phases of activities based on video or audio recordings of actual consultations. The phases observed in doctor–patient consultations are the opening of the consultation, the problem presentation, verbal examination (including history-taking), physical examination, discussions of treatment and closing. Various studies have used CA to study doctor-patient communication quality (Gafaranga & Britten, 2003; Heritage & Robinson, 2006).

Heritage and Maynard's (2006) review of the CA literature on patients' participation in the consultations revealed that patients had less opportunity to participate in diagnosis than in the treatment phase. CA studies concentrate on analyzing the process of interaction and cannot adequately deal with other equally relevant dimensions of the process of patient participation, such as what the patient could not reveal in the consultation, like what the patient said 'between the lines'.

NEED FOR QUANTIFICATION OF DOCTOR-PATIENT COMMUNICATION

Communication is a two-way process and the degree of the quality of communication is dependent on whether the receiver comprehended the message the way the sender intended it to be. In clinical context, it transforms into whether the patient comprehended what the doctors communicated. In a way, the patient has to validate his/her understanding about the doctor's instructions. Only a method that matches these two aspects can be considered as the one that is complete and objective.

The discussion based on the review clearly suggests the cost effectiveness of doctor-patient communication in the present context of health care and management. Given the high doctor-patient ratio resulting in low consultation time, optimising the quality of doctor patient communication remains a challenge. The only way this challenge can be met is by integrating innovative techniques and approaches of validating doctor-patient communication in the medical curriculum, reinforced by in service training programmes and involvement of Health Psychologists in developing disease specific check lists and communication packages for use in consultation. However the major lacunae in evaluating the effectiveness of this would be appropriate tool and method of measuring doctor-patient communication involving the communicator and receiver on the one hand and covering the content, affect and behaviour on the other. Concerted efforts are called for in health care research to fill this void. Therefore a reliable and valid method for measuring bi-directional communication is the need of the hour to replace the unidirectional approach.

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FUNCTIONING OF EMOTION AND POSITIVE HEALTH: A CO-RELATIONAL STUDY AMONG ADULTS

Renu and NovRattan Sharma***

ABSTRACT

At present, positive health has become a field of interest for psychologists. Positive health is the optimum level of health and excellent status of well-being of an individual. It includes satisfaction with life, self esteem, hope, happiness and well-being. It observes balance in each aspect of life. Positive health is affected by many factors like interpersonal relationship, functioning of emotion, economic status, daily life habits, etc. In this study, researchers have taken functioning of emotion. Functioning of emotion includes positive and negative emotions, emotion regulation and emotional competence. Scale of Psychological Well-being, Happiness Scale, Satisfaction with Life Scale, Self-Esteem Inventory, Hope scale, PANAS, Emotion Regulation Questionnaire and Emotional Competence Scale were used. These scales were administered on the adults of age group 30-45. Correlation was calculated between dimensions of positive health and dimensions of functioning of emotion. There was found a significant relationship between the dimensions of positive health and dimensions of functioning of emotion.

Keywords: Positive health, functioning of emotion, well-being, hope, satisfaction with life.

INTRODUCTION

Health has been an area of research from the decades. It has been derived from the word 'whole'. It has been seen as a state of harmony or balance. Health is the dynamic process of striving which ensures stability between inner as well as outer factors which are continuously changing. Now a day, the

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concept of positive health has been emerged which originated due to the emergence of the positive psychology perspective. It not only focuses and emphasizes on best things in life but also develops control in life. We can say that positive health is like a reservoir of positive strengths, emotions and experiences which enables the person for effective dealing with adverse situations and it helps to grow better from adversities.

Positive health is a state where an individual feels a sense of energy, absence of bothersome; has confidence about the effectiveness of the functioning of his/her body; has feelings of high life satisfaction, well-being, happiness, hope and optimism; and has personal control over health (Yadava, Hooda, Sharma, 2012). These factors can also be said the indicators of positive health. Besides these there are also other indicators like good interpersonal relationships, healthy life style, proper functioning of emotions, absence of bad habits etc. In the present study, the authors have taken the functioning of emotions.

Before defining about functioning of emotions, dimensions of positive health will be discussed. There are following main dimensions of positive health:

- **Well-being:** Well-being is a complex construct. It is the wholesome of body, mind and spirit in terms of health, prosperity and self-actualization (Maslow, 1986). Myers and Diener (1995) define high subjective well-being as frequent positive affect infrequent negative affect and a global sense of satisfaction with life. It may be defined as the state of feeling healthy and happy, having satisfaction, relaxation, pleasure and peace of mind. It deals with people's feelings about everyday experiences in life activities. Such feelings may range from negative psychological states such as anxiety, depression, frustration, emotional exhaustion, unhappiness, and dissatisfaction to states which are identified as positive mental health (Jahoda, 1958). Mohan (2001) said that well-being is a scientific sounding term for what people usually mean by happiness; their cognitive and affective conclusions about their existence; maintaining equilibrium, having good health and practicing self-control, self realization and dissolution of self. Just as positive affect is not opposite of negative affect, well-being is not the absence of mental illness (Ryan and Deci, 2001).
- **Satisfaction with Life:** Life satisfaction is defined as a cognitive judgmental evaluation of one's life. It is the most consistent and stable variable of assessing an individual's well-being. It is a global assessment of a person's quality of life. Judgments of satisfaction are dependent upon comparisons of one's circumstances with what is thought to be an appropriate standard.
- **Hope:** Hope is a two-dimensional construct that involves a person's determination to pursue goal-directed behaviour (*i.e.*, agency) and one's ability to find ways to meet those goals (*i.e.*, pathways) (Snyder,

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Harris, Anderson, Holleran, Irving, Sigmon, Yoshinou, Gibb, Langelleand Harnay, 1991). Agency thinking reflects the 'will power' component of hope which includes motivation, will power, or a sense an individual has that he or she can meet goals. Pathways thinking reflects the 'way power' component of hope which includes the routes to the goal-specific plans, strategies or solutions. It is a goal-setting framework where hopeful individuals are determined to get what they want and can figure out how to do so. Snyder (2002) says that hope exists only when an individual has the motivation to remain engaged with a future outcome and can anticipate a way to reach that outcome. Snyder (2002) viewed hope as a cognitive set and not as an emotion.

- **Happiness:** In our everyday parlance, happiness refers to most generic state of feeling good. According to Russell (1958) happiness depends upon a friendly interest in persons and things. According to him "the more things a man has and less is interested in, the more opportunities of happiness he has and less he is at the mercy of fate, since if he loses one thing he can fall back upon another". Argyle, Martin and Lee (1995) believed that happiness is comprised of three related components, which are positive affect (pleasant mood and emotion), absence of negative effect (unpleasant mood and emotion) and satisfaction with life as a whole (Bhandari, 2005; Dwivedi, 2001; Joshi, 2006).
- **Self-esteem:** It is commonly used to refer to the evaluations people make and maintain of themselves. It includes attitudes of approval or disapproval and the degree to which people feel worthy, capable, significant, and effective. It is the evaluative component of the self-concept, a broader representation of the self that includes cognitive and behavioral aspects, as well as evaluative or affective ones (Garrety, Badham, Morrigan, Rifkin and Zanko, 2003; Leary, 1999a; 1999b). Self-esteem is a measure of individuals' expectations of positive events and, accordingly, their willingness to approach objects and others. Self-esteem is one's more or less sustained sense of liking oneself.
- **Functioning of emotions:** Emotions, derived from the French word 'émovour', are subjective experiences, often associate with mood, temperament, personality, and disposition. An emotion is associated with a wide variety of feelings, thoughts, and behaviour. Functioning of emotion concept is related to whether an individual is able to regulate his/her emotions

In functioning of emotion, three dimensions are included:

- **Positive and Negative Emotions:** Positive emotions such as joy, hope, optimism, love, contentment and gratitude help us to grow as a person, energize us for positive action, solve problems, improve the quality of our relationships and increase our sense of emotional well-

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being. They broaden our range of thinking and actions Negative emotions such as fear, anger or disgust prepare us mentally and physically to take an immediate action against an object, or situation that poses a threat.

- **Emotional Regulation:** Gross (2002) proposed a process model that specifies how emotions can be regulated at each of the many steps in the process through which emotions are generated. It describes individual differences in how people regulate their emotions through growth, specifically the ways they attempt to regulate their emotions, by denying, intensifying, weakening, curtailing, masking, or completely hiding them. It is also described as the process in which people modify their emotional reactions and the coping processes that increase or decrease the intensity of the moment. There are two common emotion regulation strategies: reappraisal (changing the way one thinks about a potentially emotion-eliciting event) and suppression (changing the way one responds behaviorally to an emotion- eliciting event). Experimental findings demonstrate that reappraisal has a healthier profile of short-term affective, cognitive, and social consequences than suppression.
- **Emotional Competence:** It is the integrative term for skills that concern the accurate or effective perception, comprehension, regulation, and utilization of affect and affective information. These are closely connected and relate to a single higher-order factor (Mayer, Caruso, & Salovey, 2000; Roberts, Zeidner and Matthews, 2001; Wong & Law, 2002). Saarni (1990, 1999) said that it consists of a number of distinct, yet interrelated component skills including emotion appraisal, emotion expression and emotion understanding.

A number of studies have been done to find out the relationship of these factors and significant relationships have been found between these factors.

METHOD

Problem

To study the relationship of positive health with functioning of emotions.

Objectives

- To assess relationship between dimensions of functioning of emotion (positive and negative emotions, emotional regulation and emotional competence) and factors of positive health (well being, self esteem, satisfaction with life, happiness and hope) of adult respondents.

Hypotheses

- There would be significant relationship between dimensions of functioning of emotion (positive and negative emotions, emotional regulation and emotional competence) and factors of positive health

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(well being, self esteem, satisfaction with life, happiness and hope) of adult respondents.

Sample

For the purpose of the present study 100 educated adults of age group 30-45 years were selected on the basis of availability. These respondents were from both gender (male and female).

Tools

For the purpose of the present study following measures were used:

- **Positive and Negative Affect Schedule (PANAS):** PANAS constructed by Watson, Clark and Tellegen (1988) was used to assess positive and negative emotions. It has 20 items. Respondents are asked to indicate to what extent, they have experienced each specific emotion in the past week. Each item is rated on a 5 point Likert scale ranging from 1 (very slightly or not at all) to 5 (very much or extremely). There has been considerable support for the construct validity of the PANAS. Furthermore, estimates of internal consistency have been found to range from .86 to .90 for the positive affect scale, and from .84 to .97 for the negative affect scale. The PANAS reliability using Cronbach's alpha internal consistency in the present study was =.90.
- **Emotion Regulation Questionnaire:** Emotion regulation questionnaire given by Gross and John (2003) was used to assess emotion regulation. This scale measures two emotion regulation strategies: Reappraisal and Suppression. The scale consists of ten items (6 reappraisal items and 4 suppression items). Higher scores indicate more frequent use of each strategy. Participant's reply to all items using a scale ranging from 1 (strongly disagree) to 7 (strongly agree). Gross and John (2003) proved ERQ validity via factor analysis. Alpha reliability for both Reappraisal and Suppression factors ranged from .73 to .88 (Gross and John, 2003)|. The ERQ reliability applying Cronbech' alpha internal consistency is =.74.
- **Emotional Competence Scale:** In order to measure emotional competence the scale developed by Sharma and Bhardwaj (1995) was used. The scale consists of five different emotional competencies. They are: adequate depth of feeling, adequate expression and control of emotions, ability to function with emotions, ability to cope with problem emotions, and encouragement of positive emotions. It is a five point scale based on the lines of Likert having five alternatives for each item. Scoring of these five alternatives followed a system of 1, 2, 3, 4, and 5 from upper end to lower end. The obtained five competency scores were converted into Z-scores. The reliability of this scale is .75 and its validity is .66.

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- **Scale of Psychological Well Being (SPWB):** Scale of psychological well being developed by Ryff (1989) was used to assess well being. It consists of 54 statements. It assesses six distinct dimensions of well being. These are- autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self acceptance. It is likert scales consisting of six alternatives- strongly disagree, moderately disagree, slightly agree, moderately agree and strongly agree. There is no time limit for completing the scale. The Cronbech alpha reliability of this test is .95 and its internal consistency is .88 to .91.
- **Satisfaction with Life Scale:** Satisfaction with life scale developed by Diner, Emmons, Larson and Griffin (1985) was used to assess life satisfaction. It has 5 items and is based on seven point Likert type scale. The test- retest coefficient correlation is of this test is .87 and it Cronbech alpha coefficient is .92.
- **Subjective Happiness Scale:** Happiness was assessed using the subjective happiness scale (SHS; Lyubomirsky & Lepper, 1999). This well-validated instrument composed of four 7-point items provides a global, subjective assessment of whether one is a happy or an unhappy person, that encompasses both emotional and cognitive well-being (a = .85).
- **The Trait Hope Scale:** This scale was given by Snyder, Harris, Anderson, Holleran, Irving, Sigmon, Yoshinou, Gibb, Langelleand Harnay (1991). It consists of 12 items related to future time value, present time value, future planning and time pressure. It is 8 point likert scale.
- **Self Esteem inventory:** Self esteem was measured with self esteem inventory given by Rosenberg (1965). It consists of 10 items. The RSE is a measure of global self-esteem. The validity of the measure is well established and the reliability of the measure is á= .86. Items were answered on a four-point scale.
- **Procedure:** Each participant was contacted individually and was clearly informed about the purpose of the study. After establishing the rapport, he/she was asked to understand the general instructions, however the instructions for specific tests were provided separately. Informed and oral consent from each subject was taken. When the subject was comfortable and ready for testing, questionnaires/ tests were given and were asked to answer each and every item of all the administered questionnaires and ensured that the responses will be kept confidential. After that analysis of the data was done with the help of SPSS and then the result was discussed.

RESULTS AND DISCUSSION

Results of the following study can be shown by the following table:

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TABLE 1

Table showing correlation between Dimensions of functioning of emotion and Factors of Positive Health

	Autonomy	*Environmental mastery*	*Personal growth*	*Positive relation with others*	*Purpose in life*	*Self acceptance*	*P. well being*	*SWL*	*Agency*	*Pathway*	*Hope*	*Happine-ss Esteem*	*Self*
positive	.275**	.287**	.153	.358**	.357**	.305**	.389**	.207*	.429**	.368**	.459**	.382**	.296**
negative	-.362**	-.298**	-.205*	-.393**	-.282**	-.302**	-.413**	-.066	-.259**	-.334**	-.337**	-.388**	-.302**
reapparisal	.112	.178	.130	.260**	.086	.208*	.218*	.120	.070	.279**	.225*	.242*	.193
supression	-.090	-.190	-.031	-.191	-.209*	-.100	-.185	-.085	-.128	-.139	-.152	-.123	-.016
Adequate depth of feeling	.037	-.099	-.101	-.042	-.117	-.042	-.081	-.173	.006	-.065	-.019	-.013	-.081
adequate expression and control of emotions	.171	.174	.207*	.186	.222*	.138	.247*	.154	-.050	.025	-.003	.153	.203*
ability to function with emotions	.200*	.036	.108	.133	-.074	-.056	.077	.086	.052	.194	.155	.161	.126
ability to cope with problem emotions	.471**	.251*	.277**	.327**	.221*	.164	.384**	.245*	.292**	.388**	.394**	.387**	.386**
encouragement of positive emotions	.350**	.262**	.207*	.411**	.227*	.175	.367**	.290**	.420**	.528**	.568**	.306**	.317**

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TABLE 2

Table showing predictors of Factors of Positive Health from Dimensions of functioning of emotion by stepwise multiple regression

variable	*contributor*	*contribution*	*% of contribution*	*F-value*
Psychological well being	Negative emotion	negative	17%	20.165
	Ability to cope with problem emotion	Positive	7%	15.983
	Ability to function with emotions	Positive	5%	13.633
	Encouragement of positive emotions	Positive	3%	12.025
Hope	Encouragement of positive emotions	Positive	32%	46.689
	Positive emotions	Positive	8%	33.346
	Adequate expression and control of emotions	Negative	4%	25.510
Self-esteem	Ability to cope with problem emotion	Positive	14%	17.198
	Negative emotion	Negative	4%	11.319
Happiness	Negative emotion	Negative	15%	17.375
	Ability to cope with problem emotion	Positive	8%	14.803
	Positive emotion	Positive	4%	11.808
Satisfaction with life	Negative emotion	Positive	8%	9.023
	Ability to cope with problem emotion	Negative	5%	7.522

The results can be explained as following:

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Correlational Analysis

Correlations were computed to find out the relationship between dimensions of functioning of emotion and factors of positive health.

Positive emotions and factors of positive health: There is significant correlation between positive emotions and autonomy ($r = .30$, $p < 0.01$), positive emotions and environmental mastery ($r=.29$, $p<0.01$), positive emotions and positive relation with others ($r=.36$, $p<0.01$), positive emotions and purpose in life ($r=.36$, $p<0.01$), positive emotions and self acceptance ($r=.31$, $p<0.01$), positive emotions and psychological well being ($r=.40$, $p<0.01$), positive emotions and satisfaction with life ($r=.21$, $p<0.05$), positive emotions and agency ($r=.43$, $p<0.01$), positive emotions and pathway ($r=.39$, $p<0.01$), positive emotions and hope ($r=.46$, $p<0.01$), positive emotions and happiness ($r=.38$, $p<0.01$), positive emotions and self esteem ($r=.30$, $p<0.01$). Though the correlation is low but is positive and significant. Thus it indicates that positive emotions plays very important role in our life. Some of the psychologists have said that positive emotions are part of the well-being, happiness and satisfaction. Fierro (2006) found that Individuals are in a state of psychological well-being if they have a high degree of satisfaction with themselves, if their mood is good (positive affect), and if they only occasionally experience unpleasant emotions such as sadness, anger, and inhibitions (negative affect). Diener, Lucas and Scollon (2006) investigated that positive affect tends to decrease over the life span while life satisfaction tends to increase.

Negative emotions and factors of positive health: There is significant correlation between negative emotions and autonomy ($r=-.36$, $p<0.01$), negative emotions and environmental mastery ($r=-.30$, $p<0.01$), negative emotions and personal growth ($r=-.20$, $p<0.05$), negative emotions and positive relation with others ($r=-.39$, $p<0.01$), negative emotions and purpose in life ($r=-.28$, $p<0.01$), negative emotions and self acceptance ($r=-.30$, $p<0.01$), negative emotions and psychological well being ($r=-.41$, $p<0.01$), negative emotions and agency ($r=-.26$, $p<0.01$), negative emotions and pathway ($r=-.33$, $p<0.01$), negative emotions and hope ($r=-.34$, $p<0.01$), negative emotions and happiness ($r=-.39$, $p<0.01$), negative emotions and self esteem ($r=-.30$, $p<0.01$). Though the correlation is low but is negative and significant. Thus, it indicates that negative emotions also play very important in our life. They prepare us for the negative outcomes of life. Watson and Clark, (1984); DeNeve and Cooper, (1998); Brown and Marshall, (2011) found that close associations between positive and negative emotion and self-esteem

Emotion regulation and factors of positive health: There is significant correlation between reappraisal and positive relation with others ($r=.26$, $p<0.01$), reappraisal and self acceptance ($r=.21$, $p<0.05$), reappraisal and psychological well being ($r=.22$, $p<0.05$), reappraisal and pathway ($r=.30$, $p<0.01$), reappraisal

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and hope (r=.23, p<0.05), reappraisal and happiness (r=.24, p<0.05), suppression and purpose in life (r=-.21, p<0.05), Though the correlation is low but is positive and significant except with suppression. Haga, Kraft & Corby (2009) investigated the use of cognitive reappraisal and expressive suppression and how these strategies related to measures of well-being (affect, life satisfaction, and depressed mood) in university students in Norway, Australia, and the United States. Use of emotion regulation strategies predicted well-being outcomes. Increased use of reappraisal predicted increased levels of positive well-being outcomes, while increased use of expressive suppression predicted increased levels of negative well-being outcomes. Well-being improved emotion regulation ability through a broaden-and-build mechanism (Fredrickson, 1998). Happy individuals with a broad mindset were exposed to more novel information about how to regulate emotions, and also more readily accept that information. In turn, their abilities to regulate emotions were improved.

Emotion competence and factors of positive health: There is significant correlation between adequate expression and control of emotions and personal growth (r=.21, p<0.05), adequate expression and control of emotions and purpose in life (r=.22, p<0.05), adequate expression and control of emotions and psychological well being (r=.25, p<0.05), adequate expression and control of emotions and self esteem (r=.20, p<0.05), ability to function with emotions and autonomy (r=.20, p<0.05), ability to cope with problem emotions and autonomy (r=.47, p<0.01), ability to cope with problem emotions and environmental mastery (r=.25, p<0.05), ability to cope with problem emotions and personal growth (r=.28, p<0.01), ability to cope with problem emotions and positive relation with others (r=.33, p<0.01), ability to cope with problem emotions and purpose in life (r=.22, p<0.05), ability to cope with problem emotions and psychological well being (r=.38, p<0.01), ability to cope with problem emotions and satisfaction with life (r=.25, p<0.05), ability to cope with problem emotions and agency (r=.29, p<0.01), ability to cope with problem emotions and pathway (r=.39, p<0.01), ability to cope with problem emotions and hope (r=.39, p<0.01), ability to cope with problem emotions and happiness (r=.39, p<0.01), ability to cope with problem emotions and self esteem (r=.39, p<0.01), encouragement of positive emotion and autonomy (r=.35, p<0.01), encouragement of positive emotion and environmental mastery (r=.26, p<0.01), encouragement of positive emotion and personal growth (r=.20, p<0.05), encouragement of positive emotion and positive relation with others (r=.41, p<0.01), encouragement of positive emotion and purpose in life (r=.23, p<0.05), encouragement of positive emotion and psychological well being (r=.37, p<0.01), encouragement of positive emotion and satisfaction with life (r=.29, p<0.01), encouragement of positive emotion and agency (r=.42, p<0.01), encouragement of positive emotion and pathway (r=.53, p<0.01), encouragement of positive emotion and hope (r=.57, p<0.01),

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encouragement of positive emotion and happiness (r=.31, p<0.01), encouragement of positive emotion and self esteem (r=.32, p<0.01). Nelis, Kotsou, Quoidbach, Hansenne, Weytens, Dupuis and Mikolajczak (2011) found that by developing emotional competence, there are positive changes in psychological well-being, subjective health, quality of social relationships, and employability.

Multiple Regression Analysis

Table 2 shows the stepwise multiple regression analysis of the predictors of factors of positive health from the dimensions of functioning of emotions.

Psychological well being: Table 2 shows that negative emotions plays very important role in predicting psychological well being (about 17%) but their contribution is negative means if negative emotions decreases then they will increase psychological well being. Ability to cope with problem emotion (7%), Ability to function with emotions (5%), Encouragement of positive emotions (3%) also contribute in predicting psychological well being and their contribution is positive.

Hope: Encouragement of positive emotions (32%) plays very important role in predicting hope and its contribution is positive. It means that as positive emotions increases hope also increases. Positive emotions (8%) and adequate expression and control of emotions (4%) also predict hope.

Self-esteem: Ability to cope with problem emotion (14%) plays very important role in predicting self esteem. Negative emotions (4%) negatively predict hope.

Happiness: Negative emotions (15%) predict happiness but their contribution is negative. Ability to cope with problem emotion (8%) and positive emotion (4%) also predict happiness.

Satisfaction with life: Negative emotions (8%) plays crucial role in predicting satisfaction with life.

The past few decades have shown progress of research in the area of studying the relationship of emotions and positive health. But the number is less. On the basis of the research we can say that there is a strong relationship between the factors of positive health and the dimensions of positive health among adults. It shows that proper functioning of positive and negative emotions, their regulation and competence enhances well being, satisfaction with life, happiness, hope and self esteem.

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IMPACT OF SELF-TALK AND PERSONALITY ON EMOTIONAL INTELLIGENCE

Meenakshi Chauhan and P.K. Rai***

ABSTRACT

This paper aims at to study the impact of self-talk, and different traits of personality on empathy. Self-talk is a way of describing all the things we say to ourselves all day long as we confront obstacles, make decisions, and resolve problems. Self-talk of a person determines his self-esteem in a positive or negative way which in turn effects his behaviour. A trait is a temporally stable, cross-situational individual difference. Emotional intelligence is the ability of an individual to appropriately and successfully respond to a vast variety of emotional stimuli being elicited from the inner self and immediate environment. To measure self-talk, self-talk inventory, for the traits of personality, big-five personality test, and for emotional intelligence, the assessing emotions scale were used. This study was conducted on the students of post graduate classes of different faculties of Dr. H.S. Gour University. Multiple regression was done by using SPSS – 17. In the correlation matrix positive conscientiousness and agreeableness are significantly correlated with emotional intelligence. All the predictor variables together are responsible for only 2% of the variance in emotional-intelligence. Conscientiousness and agreeableness are the strongest predictors among all.

Keywords: Self-Talk, Personality Traits Emotional-Intelligence.

INTRODUCTION

Since 1990, Peter Salovey and John D. Mayer have been the leading researchers on emotional intelligence. In their influential article "Emotional

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Intelligence," they defined emotional intelligence as, "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (1990).

Salovey and Mayer proposed a model that identified four different factors of emotional intelligence: the perception of emotion, the ability reason using emotions, the ability to understand emotion and the ability to manage emotions.

1. **Perceiving Emotions:** The first step in understanding emotions is to accurately perceive them. In many cases, this might involve understanding nonverbal signals such as body language and facial expressions.
2. **Reasoning with Emotions:** The next step involves using emotions to promote thinking and cognitive activity. Emotions help prioritize what a person pay attention and react to; a person responds emotionally to things that garner his attention.
3. **Understanding Emotions:** The emotions that a person perceives can carry a wide variety of meanings. If someone is expressing angry emotions, the observer must interpret the cause of their anger and what it might mean. For example, if the boss is acting angry, it might mean that he is dissatisfied with the work; or it could be because he got a speeding ticket on his way to work that morning or that he's been fighting with his wife.
4. **Managing Emotions:** The ability to manage emotions effectively is a key part of emotional intelligence. Regulating emotions, responding appropriately and responding to the emotions of others are all important aspect of emotional management.

According to Salovey and Mayer, the four branches of their model are, "arranged from more basic psychological processes to higher, more psychologically integrated processes. For example, the lowest level branch concerns the (relatively) simple abilities of perceiving and expressing emotion. In contrast, the highest level branch concerns the conscious, reflective regulation of emotion (1997).

The good news about emotional intelligence is that, unlike IQ, it can be improved throughout life. In a serendipitous fashion, life offers innumerable chances to tone a person's emotional competence. In the normal course of a lifetime, EI tends to increase as you learn to be more aware of your moods, to effectively handle distressing emotions, to listen and empathise. In short, as a person become more mature (Singh, D. 2003). Men and women are equal in their ability to increase emotional intelligence. While women tend to be stronger in competencies based on empathy and social skills, men do better in those based on self-regulation.

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Self-talk is defined as cognitive products that reflect what people tell themselves. According to Pascal "Man is an intimate dialogue" (Marina, 2005). Within a person, he transmits information and orders and also ask questions. In most cases, thoughts take the form of internal self-talk to oneself, although cognitions also take such forms as the imagination, affective information and tacit knowledge (Schwartz, 1997).

Joseph (2009) identifies "self-talk as being the things a person says about themselves when faced with problems, difficulties or challenges". Self-Talk or Inner speech is a characteristic of human kind (Fields, 2002). Thoughts in the form of inner conversation deluge a person's mind and cognitive theorists have long emphasized the link between what a person says to himself and how he behaves, suggesting that a person's thinking can affect emotional and behavioural outcomes (Ellis, 1994; Meichenbaum, 1977). Meichenbaum (1977) viewed self-statements as indices of individual's beliefs which may play a mediational role in behavioural performance.

Self-talk is a way of describing all the things one says to himself all day long as he confronts obstacles, makes decisions, and resolves problems. Self-talk is not "talking to yourself" in a literal sense, although it sometimes does involve talking out loud (depending on the person). There is a myth, that a person talk to himself, it is a sign of "craziness" or mental illness. That idea stems from the "voices" or auditory hallucinations experienced in severe forms of mental illness, such as schizophrenia. When a person hears voices, he/she thinks it is someone else talking to them. The self-talk described here is not like that at all. Everyone is engaged in self-talk. Usually, it is part of thinking process, or "stream of consciousness."

Researchers like Martin Seligman have been studying optimists and pessimists for years, and they have found that an optimistic world view carries certain advantages. Language may be the most powerful tool ever invented to influence behaviour. Language directed inward, or "self-talk," is especially important in performance situations. Sport psychologists describe self-talk as thinking, or making internal or external statements. This dialogue with oneself provides a means of identifying and solving problems by making perceptions and beliefs conscious.

Available research indicates that self-talk can improve attentional control and create positive expectancies. Positive self-talk has also been associated with more successful competitive outcomes whereas negative self-talk is associated with losing and poorer attentional control. It is also helpful in arousal management, competitive pressure management, anger management, elimination of fear and choking, and development of the killer instinct.

According to Brain Traicy (2011), the most powerful influence on a person's attitude and personality is what he say to himself, and believe. It is not what

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happens to him, but how he respond internally to what happens to him, that determines his thoughts and feelings and ultimately, his actions. By controlling the inner dialogue, or self-talk, one can begin to assert control over every other dimension of his life.

One's self-talk, words that he use to describe what is happening to him and to discuss how he feels about external events, and determines the quality and tone of his emotional life. When he sees things positively and constructively and look for the good in each situation and each person, he has a tendency to remain naturally positive and optimistic. Optimists develop the habit of talking to themselves in constructive ways. Whenever they experience an adversity, they immediately describe it to themselves in such a way that it loses its ability to trigger negative emotions and feelings of helplessness.

According to Walt Schafer (2004), Negative self-talk is *perpetuates avoidance.* Negative self-talk prevents us from solving problems, and can contribute to a variety of psychological problems, including depression. One tells himself that a situation such as the freeway is dangerous and so he avoid it. By continuing to avoid it, he reinforce the thought that it's dangerous. A person may even project images of catastrophe around the prospect of confronting the situation. In short, anxious self-talk leads to avoidance, avoidance begets further anxious self-talk, and around and around the cycle goes.

Trait is a quality or characteristics mode of behaviour which is consistently seen in an individual's behaviour over a long period of time. Cheerful man is consistently cheerful over a long period of time in varied situations. A trait may therefore be defined as a particular quality of behaviour which characterizes the individual in a wide range of his activities and is fairly consistent over a period of time. A trait of personality means such a distinctive character of a person's thoughts, feelings and actions as market him off from other persons. The cluster of characteristics is a trait.

Trait psychology considers personality traits as the primary point of focus in defining personality and views human nature in terms of individual differences. As in any of the theoretical orientations, there are numerous theories and trait systems within trait psychology which attempt to explain personality. *The Big five* model provides an empirical generalization of the co-variation of personality traits.

Depape et al (2006) studied Self-Talk and Emotional Intelligence in university students. The results indicated that year of study and self-talk were significant predictors of emotional intelligence and were associated with emotional intelligence in a positive direction. Contrary to expectation, gender was not a significant predictor.

Other theorists and researchers (Neubauer & Freudenthaler, 2005; Petrides & Furnham, 2001, 2003) have argued that emotional intelligence can be usefully

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conceptualised as typical (or trait) functioning. A trait approach to assessing emotional intelligence draws on self or other reports to gather information regarding the display of emotional intelligence characteristics in daily life. Even though some literature presents ability and trait conceptualisations of emotional intelligence as mutually exclusive alternatives (*e.g.*, Mayer, Salovey & Caruso., 2000), we believe that both are important and complementary dimensions of adaptive emotional functioning.

Numerous studies have explored how scores on the Assessing Emotions Scale are associated with outcomes one might expect to be related to emotional intelligence. Such outcomes are found in various life realms including mental health, employment, and academic pursuits. Examples of early findings include that Assessing Emotions Scale scores related to more optimism, greater impulse control, lack of depressed affect (Schutte et al., 1998), more empathic perspective taking, greater self-monitoring in social situations, more closeness and warmth in relationships, and greater marital satisfaction (Schutte et al., 2001). Further, scale scores predicted better mood repair after a negative mood induction (Schutte, Malouff, Simunek, McKenley & Hollander, 2002). From the above discussion, it is obvious that there is strong association between self-talk and emotional intelligence. But still there are lots of potential to study the association between personality traits and emotional intelligence.

Objective

The main objective is to find out the power of prediction of self-talk and personality traits on emotional intelligence.

Hypotheses

- There will be positive correlation between positive self-talk and emotional intelligence.
- There will be negative correlation between negative self-talk and emotional intelligence.
- There will be positive correlation between personality traits (extroversion, openness, agreeableness and conscientiousness) and emotional intelligence.
- There will be negative correlation between neuroticism and emotional intelligence.

METHODOLOGY

Sample

A sample of 262 Subjects was drawn from students of P.G. courses from different Colleges/ University Teaching Departments. The age group was taken between twenty two to thirty, as it is considered that mostly students in this age group pursues P.G. courses.

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Sampling

Convenience sampling, a type of non-probability sampling method is used in the study. A convenience sample is a matter of taking what a researcher can get. Volunteers would constitute a convenience sample.

Study Design

This study aims at to predict the co-relational relationship between the given variables. Hence different types of self-talk (negative and positive) and different traits of personality as measured by NEO-FFI were used as predictor variables and Self-Esteem was taken as outcome variables. Here variables were measured simultaneously and none of them were manipulated.

Statistical Techniques Used

In this study, multiple regression was performed on SPSS-17. For this study, Backward method was adopted for linear multiple regression. In Backward selection, SPSS enters all the predictor variables into the model. The weakest predictor variable is then removed and the regression re-calculated. If this significantly weakens the model then the predictor variable is re-entered – otherwise it is deleted. This procedure is then repeated until only useful predictor variables remain in the model. In multiple regression there is no direct manipulation of the variables but instead just measure the natural occurring levels of the variables and see if this helps in predicting the score on the D.V.

Measures

- *Self-Talk Inventory*: It was constructed by Ester Calvete and Olga Cardenoso (University of Deusto) in 2002. This inventory includes two different scales: Negative self-talk scale and Positive self-talk scale. It consists of ten imaginary situations using a 4-point response formatted scale (1 = not very probable, 2 = somewhat probable, 3 = quite probable. 4 = very probable).
- *The Assessing Emotions Scale*: was developed by Nicola S. Schutte, John M. Malouff and Navjot Bhullar. It is a 33-item self-report inventory focusing on typical emotional intelligence. Respondents rate themselves on the items using a five-point scale. Respondents require on average five minutes to complete the scale. Total scale scores are calculated by reverse coding items 5, 28 and 33, and then summing all items. Scores can range from 33 to 165, with higher scores indicating more characteristic emotional intelligence.
- *NEO-PI-R:* This test was developed by Paul T. Costa and Robert R. McCrae in 1985. It is a concise measure of the five major dimensions, or domains, of personality and some of the more important traits or facets that define each domain. Together, the five domain scales

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(extraversion, neuroticism, agreeableness, openness and conscientiousness) and thirty facet scales of the test allow a comprehensive assessment of adult personality.

RESULTS AND DISCUSSION

In the table 1, mean, S. D. and correlational matrix is presented. Correlational matrix shows significant relationship in bold numbers between the variables. It can be observed that positive self-talk is significantly correlated with empathy (*i.e.* r = .156, p < .05) and neuroticism (Neuro.) is negatively correlated with empathy (*i.e.* r = –.075, p < .00). Agreeableness (Agree) is significantly correlated with empathy (*i.e.* r = .222, p < .00) while remaining three personality traits *i.e.* Extraversion (Extro.), Openness (Open.) and Conscientiousness (Cons.) are not showing any significant relationship with empathy. Besides, the table is showing correlation between Self-Talk and Personality traits. Except neuroticism, self-talk is showing correlation with all other traits of personality.

TABLE 1

Mean, S.D. and Inter-Correlational matrix (Pearson Correlation) of all the variables.

	Mean	*S. D.*	*S-t pos.*	*Neuro.*	*Extro.*	*Open.*	*Agree.*	*Cons.*	*E. I.*
1. S-t neg.	44.40	14.42	–.045	–.049	–.092	–.166**	–.222**	.006	–.067
2. S-t pos.	70.43	14.44		–.068	.123*	–.177**	.048	.140*	.093
3. Neuro.	24.87	5.47			.172**	.039	–.137*	–.222**	–.060
4. Extro.	30.32	4.96				–.123*	.101	.023	.025
5. Open.	26.20	4.79					.005	–.115	.042
6. Agree.	26.83	5.26						.274**	.143*
7. Cons.	33.35	5.76							.163**
8. E. I.	128.46	13.78							

*$p < .05$. **$p < .001$.

Scatter plots were also drawn between all the possible combinations of P.Vs. and O.Vs. The red line in the graphs shows regression line or the line of fit. The partial dotted line represents the non-linear regression line, a bend in regression line. It's uncommon in behavioural science but here it's used to make better understanding and prediction between the variables.

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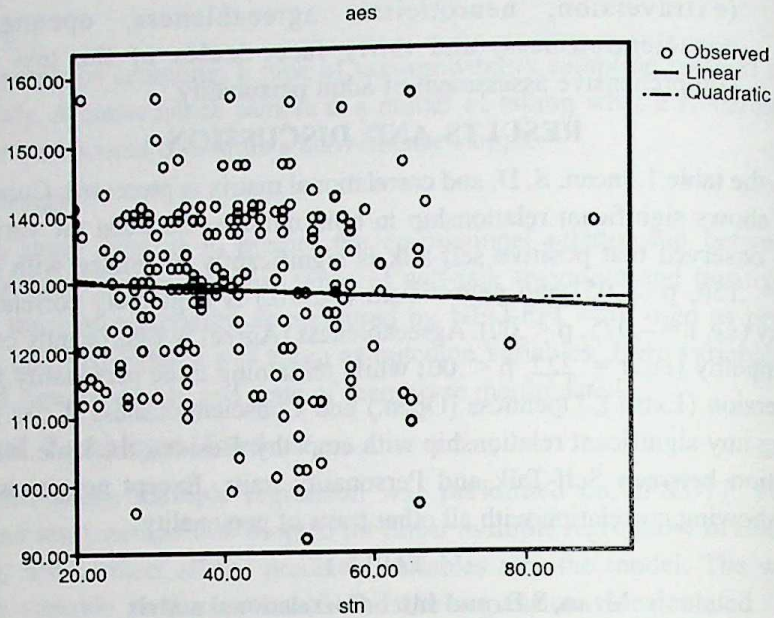

Figure 1: Scatterplot between EER and Negative Self-Talk.

In the graph 1, the line has mild negative slope and the partial dotted line is covered by regression line which denies any possibility of non-linear relationship. The scores are scattered in the left side of the graph pointing towards weak relationship. Outliers are also present.

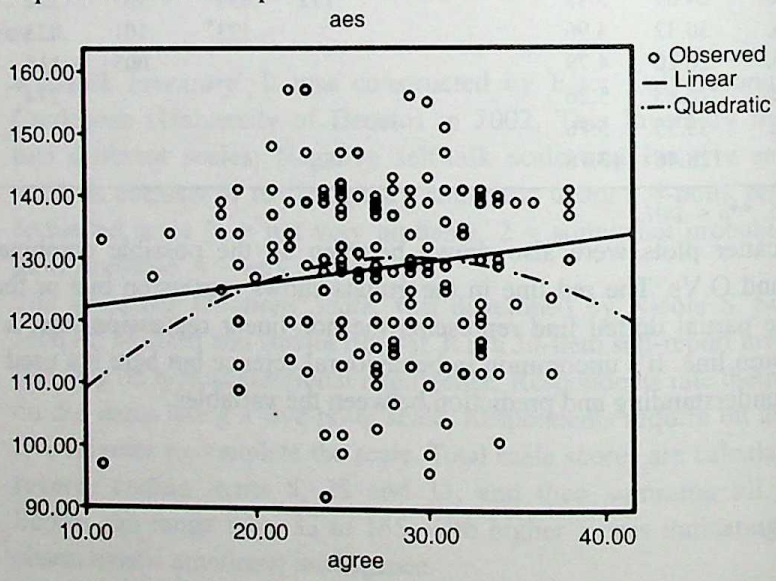

Figure 2: Scatterplot between Emotional Expression and Regulation and Agreeableness

In the graph 2, there may be a linear relationship between agreeableness and EmotionalExpression and Regulation. Here the regression line has mild slope

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moving upward showing a positive trend. The partial dotted line showing possibility of non-linear relationship. Scattered scores are showing weak relationship. Some outliers are also present.

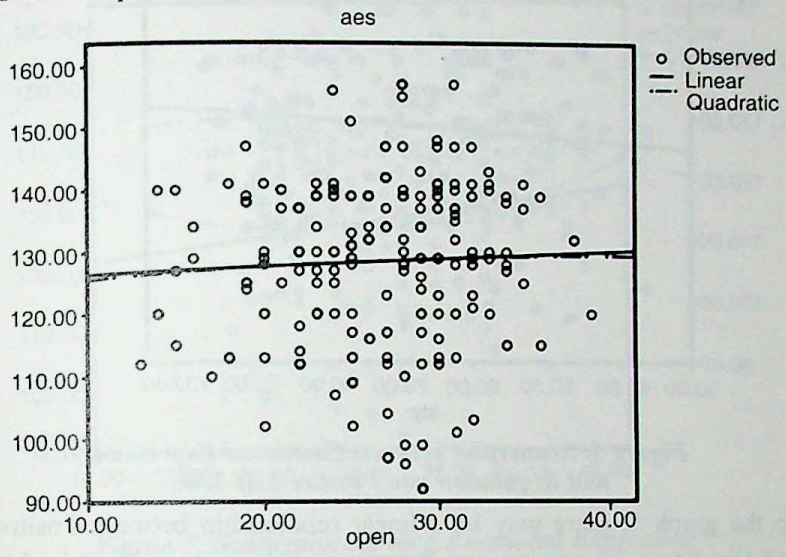

Figure 3: Scatterplot between Emotional Expression and Regulation and Openness.

The graph 3, is showing almost a straight line showing no relationship between the variables. The scores are scattered all over the graph showing weak relationship.

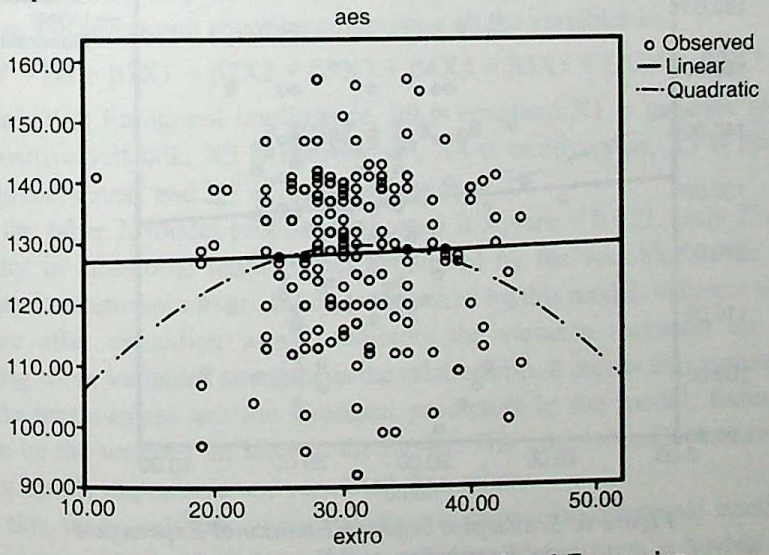

Figure 4: Scatterplot between Emotional Expression and Regulation and Extraversion.

The graph 4 is showing a non-linear trend as the red line is straight and the partial dotted line has a deep bend.

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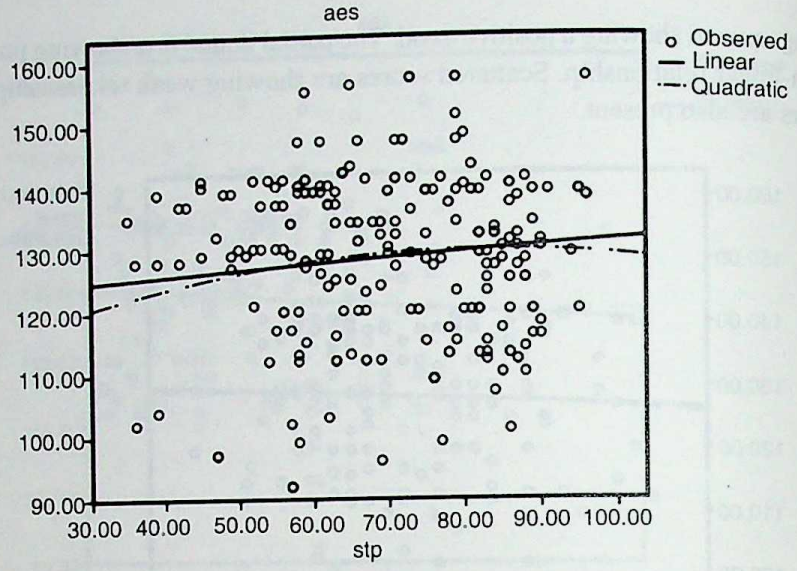

Figure 5: Scatterplot between Emotional Expression and Regulation and Positive Self-Talk.

In the graph 5, there may be a linear relationship between Positive Self-Talkand Emotional Expression and Regulation. There is no bend in the partial dotted line. The mild slope of red line points towards a positive trend between Positive Self-Talk and Emotional Health. The scattered scores shows weak relationship and some outliers are also present.

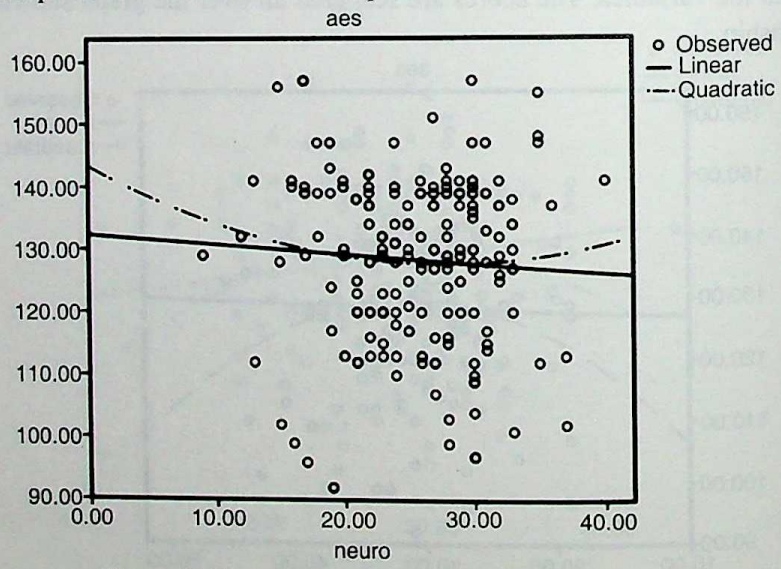

Figure 6: Scatterplot between Emotional Expression and Regulation and Neuroticism.

In the graph 6, there may be a linear relationship between Neuroticism and Emotional Expression and Regulation. The mild downward slope is pointing

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negative trend between the variables. Scattered scores are showing weak relationship. May be some outliers are also present.

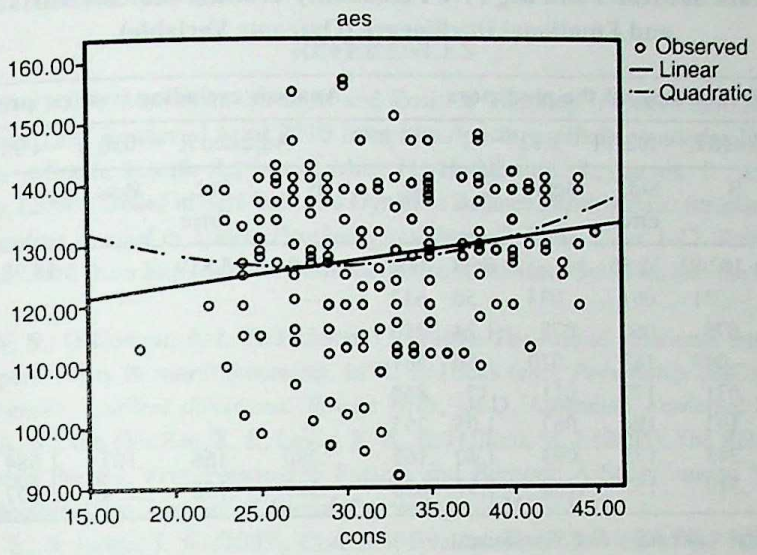

Figure 7: Scatterplot between Emotional Expression and Regulation and Conscientiousness.

In the graph 7, there may be a linear relationship between Conscientiousness and EmotionalExpression and Regulation. The upward slope presents a positive trend between the variables. Scattered scores are showing weak relationship. Some outliers, may be present.

Here, the regression equation comprising all the variables is:

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + \beta 6X6 + \beta 7X7.$$

Here, Y is Emotional intelligence, β0 is constant, X1 is negative self-talk, X2 is positive self-talk, X3 is neuroticism, X4 is extroversion, X5 is openness, X6 is agreeableness and X7 is conscientiousness.

In the table 2, model produced adjusted R square = 0.022. Only 2% of the variability in emotional intelligences accounted by the variables in the model. Here very less amount of variability is explained by this model. Whereas adjusted R square after excluding weak predictors the variance increases up to 3%. Excluding weak variables strengthens the relationship. It means that agreeableness and conscientiousness are the strongest predictors in the model. Extraversion found to be the weakest variable in the model. This concludes that extraverts are not emotionally expressive and regulated than others.

In this study, self-talk is not having any impact on emotional intelligence. Among personality traits agreeableness and conscientiousness is having impact. They may have better expression and regulation of emotion than others. Also, the F value was not significant when all variables were included.

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TABLE 2:

Summary of Regression Analysis Testing the Association between Self–Talk Subscales and Big Five Personality Traits (Predictor Variables) and Emotional Intelligence (Outcome Variable).

Analysis including all the predictors						Analysis excluding weakest predictors				
Adjusted $R^2 = .022$, $F = 1.83^{NS}$						Adjusted $R^2 = .030$, $F = 4.98^{**}$				
	B	Std. Error	Beta	t	Sig.	B	Std. Error	Beta	t	Sig.
(Constant)	102.93	12.33	—	8.34	.000	110.30	5.810	—	18.98	.000
S-t neg.	–.031	.061	–.033	–.50	.612	—	—	—	—	—
S-t pos.	.075	.060	.078	1.24	.216	—	—	—	—	—
Neuro.	–.049	.162	–.020	–.30	.761	—	—	—	—	—
Extro.	.031	.177	.011	.17	.860	—	—	—	—	—
-Open.	.193	.184	.067	1.05	.295	—	—	—	—	—
Agree.	.243	.173	.093	1.40	.162	.280	.166	.107	1.684	.09
Cons.	.310	.157	.130	1.97	.050	.319	.152	.134	2.107	.03

$*p < .05$. $**p < .00$. NS = Not Significant.

It seems that there is no impact of negative or positive thoughts on emotional intelligence. A person is equally able to regulate and express his emotions in an adversity situation weather he is having negative or positive affirmations. Conscientious people work towards goals in a disciplined, dependable fashion. He proceeds in a linear, sequential manner, with a strong will to achieve. He typically consolidates his time, energy and resources in pursuit of his goals.

Negative or positive self-talk is not showing any significant relationship with emotional intelligence. Previous researches quoted that self-talk impacts performance, motivation, emotions and their regulations. But the findings of the present study are not in consonance with previous studies. In this sample self-talk is acting differently. Also, it is a matter of future research that how people cognise emotional intelligence in Indian culture.

Findings

- No significant relationship has been found between either type of self-talk and emotional intelligence.
- Significant positive relationship has been found between personality traits (conscientiousness and agreeableness) and emotional intelligence.
- Openness, Neuroticism and Extraversion seems to be the weakest variables in predicting the emotional intelligence.

Limitations

- Convenience sampling may have caused selection bias. Systematic random sampling may be used for recruiting study samples in future researches to avoid nay selection bias.

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- In addition to the quantitative method, in-depth qualitative research may also be used to have more precise and informative answers to the research question.

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HEALTH LOCUS OF CONTROL AND COMPLIANCE WITH MEDICAL REGIMEN: A STUDY OF TYPE 2 DIABETES PATIENTS

*Musaddiq Jahan**

ABSTRACT

The present study was conducted to examine the role of health locus of control and compliance to medical regimen in controlling and managing diabetes. Participants of the study were 200 diagnosed diabetic patients (Females=100, Males=100), out of which 100 had controlled diabetes and 100 had uncontrolled diabetes. Health Locus of control was measured by Wallston's HLC scale and Compliance behaviour was measured by using an11 item four point likert type scale prepared for this purpose. The results indicated that those patients whose blood sugar level was under control, were significantly higher on internal health locus of control and were more compliant with medical regimen. Furthermore, females whose blood sugar level was under control, scored significantly higher than their male counterparts on compliance behaviour.

Keywords: Chronic health problem, Health locus, Health locus of control

INTRODUCTION

Diabetes is a chronic health problem that is increasing at every rapid speed and affecting millions of people all over the world. India is having the highest number of diabetes patients in the world and it is estimated that by year 2025, this population will be equal to the diabetes patients living in the entire world.

Diabetes is not only a disease of blood sugar but it also affects almost all bodily functions. Its management is in the hands of the patient and his family members. The patient has to follow day to day administration of his medication which can be extremely difficult, resulting in anxiety, guilt, anger, and depression.

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Sometimes serious family discord can lead to non-compliance affecting the health of the patient. Even sometimes there can be complete negligence of the diabetic regimen.

The treatment approach for diabetes enacts a balancing act with medication diet, and regular exercise. Diabetes patients can reduce their long term health risks by keeping their blood glucose levels within the normal range by carefully following prescribed treatment regimen®. Today treatments for diabetics allow patients to have a better control over their blood sugar than in the past but these new methods are still not perfect and many patients who have regimens that could provide better control over their blood glucose, do not adhere to them closely. Noncompliance with the treatment regimen is a major problem in managing diabetes. Years ago, review of studies on this issue found most people with diabetes tested their blood glucose level incorrectly, administered wrong doses of insulin and failed to follow the recommended diet carefully (Wing et. al., 1985) and the situation is worsening continuously. Researchers have found that blood sugar control among type-2 diabetes decreased from 1988 to 2000 (Koro et al, 2004).

Noncompliance with medical recommendations tend to be low when the regimen is complex, must be followed for along time, requires change in the person's lifestyle, and is designed to prevent rather than cure illness. Treatment regimen for diabetes has all these characteristics. Inaddition, psychosocial factors in patients' lives are related to compliance. Two of these factors studied are social support and self-efficacy. A study found that diabetic patients' self-report of adherence to dietary, exercise and glucose testing aspects of their regimen is increased with perceived social support (Wilson et. al., 1986). Adherence was found to be associated with low HBA1c level (Hill Briggs et al, 2005). Their data suggested that specific medication taking behaviours are important to diabetes control and constitute logical targets for interventions.

Health locus of control has been the focus of study in many researches on metabolic control among both type- 1 and type- 2 diabetes. Internal health beliefs and a weak belief in chance and luck are found to be associated with better metabolic control in insulin dependent diabetes mellitus (Stemstorm et. al., 1998). Ohea & Erin (2005) advocated the role of HLOC beliefs in medical outcomes in low income individuals diagnosed with type-2 diabetes. Health beliefs have both direct and indirect effect on diabetes metabolic control through compliance (Brown and Hedges, 1994). Importance of adherence was shown in a study conducted by Hill-Briggs et. al., 2002), ontype-2 diabetes patients to assess medication adherence. Adherence was associated with lower Hba1c (Hemoglobina1c), suggesting that specific medication taking behaviors are important to diabetes control.

Psychologists have long been interested in understanding the role of locus of control beliefs in a variety of health attitudes, behaviors and situations. The concept of Health Locus of Control (HLC) was first popularized in 1976 by

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Wallston et. al., who recognized that there was difficulty in predicting health behaviour specifically from generalized expectancy measures such as Rotter's scale (1966). HLC has been related to whether individuals change their behaviour and the kind of communication style they require from health professionals. HLC is the degree to which individuals believe that their health is controlled by internal or external (chance and powerful others) factors.x

It is very important that patients play an active role in the management and taking care of their health. In this context the role of HLC beliefsseems to be important. Internal HLC has been found by many researchers to be associated with better metabolic control among insulin dependent diabetes mellitus (Stenstrom et. al., 1989). HLC is significant predictorof non- attendance of diabetic nutritional care clinics (Spikmans et al, 2003) and is meaningfully related to medical regimen adherence (O'hea et. al., 2005). It has been found to be a significant predictor of general health status of diabetic patients. Brown and Hedges (1994) studied the results of previous studies and designed a model to explain metabolic control in diabetes. Predictors to metabolic control that were selected were knowledge, health beliefs, and compliance or adherence. Findings indicated that health beliefs had direct and indirect effect on diabetes metabolic control through compliance. The study conducted by Hill-Briggs et.al., (2005) on adherence to diabetic medication suggested that specific medication taking behaviours are important to diabetic control and constitute logical targets for intervention.

In the present investigation an attempt is made to examine the HLC and compliance to medical regimen among controlled and uncontrolled type-2 diabetes patients.

METHOD

Sample

Sample of the present study comprised of 200 diagnosed patients of type-2 diabetes visiting the of J.N. Medical college, A.M.U., Aligarh. Out of these, 100 were males and 100 were female patients. Age of the patients ranged between 45 to 60 years. The criteria for selection of the participants was as follows: patients with a sugar level (fasting) d" 120 and below were considered as patients with controlled diabetes and those having sugar level (fasting) e" than 200 were considered as uncontrolled diabetes patients Most of the patients belonged to middle class and lower middle class whose family monthly income ranged between Rs. 10000 to Rs. 25000. Many patients were illiterate also. The data were collected individually from the Endocrinology OPD.

Tools of the Study

The following scales were used.

- **Health Locus of Control Scale (HLC):** The multi-dimensional Health Locus of Control Scale developed by Wallston et. al., (1976) consists

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of 18 items. The scale is composed of three 6-item subscales reflectin the degree to which individuals attribute health outcomes to interna control, powerful others, and chance. Each subscale measures a individual's tendency to believe that health outcomes are due mainly t one's own behaviour (IHLOC), powerful others such as medica professionals or family (PHLC), or to chance (CHLC).

- **Compliance Behaviour Questionnaire:** The questioner was speciall designed to measure patient's compliance to medical prescription regarding medication, diet, exercise etc. It consists of 11 items whic measure a person's adherence to medical regimen. Each item in th scale has to be answered on a 4-point rating scale ranging from (always) to 0 (never). All the ratings on the scale are summed up t get a total score.

Procedure

The researcher visited the OPD of J.N. Medical college A.M.U., Aligarh The permission for data collection was taken from Head of the department o Endocrinology. Then the patient who visited the researcher was made to si comfortably in a relaxed manner. In the beginning good rapport was establishe with the patient. Then the investigator explained the objectives of the study an took the patient's consent prior to data collection and did not force anyone t participate in the study. After establishing rapport the patients were asked question to get information on demographic variables. Illiterate patients were administere the questionnaire orally while those who were literate and agreed to fill th questionnaire themselves, were allowed to do so. Each respondent took abou ten to fifteen minutes to answer the questionnaires.

RESULTS

The results of the present study are presented in the tables 1 through 4.

TABLE 1

Comparison of Controlled and Uncontrolled Diabetic patients on Health Locus of Control and Compliance to Medical Regimen

HLC Dimensions	*Groups*	*Mean*	*SD*	*t-value*
IHLC	Controlled	23.45	2.77	2.96*
	Uncontrolled	19.47	2.71	
CHLC	Controlled	15.34	2.87	.32
	Uncontrolled	15.66	2.80	
PHLC	Controlled	24.55	2.85	.38
	Uncontrolled	24.83	2.70	
Compliance	Controlled	24.56	3.89	3.96*
	Uncontrolled	20.36	3.44	

The values in table I show that controlled and uncontrolled diabetic patient differed significantly only on Internal Health Locus of Control and Compliance

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Controlled diabetic patients scored significantly higher on IHLC as compared to uncontrolled diabetic patients. They also scored significantly higher on compliance.

TABLE 2

Comparison of Male and Female Controlled diabetic patients on Health Locus of Control and compliance to medical regimen

HLC Dimensions	*Groups*	*Mean*	*SD*	*t-value*
IHLC	Female Controlled	23.26	2.69	.45
	Male Controlled	23.65	2.85	
CHLC	Female Controlled	15.63	2.85	.70
	Male Controlled	15.05	2.90	
PHLC	Female Controlled	24.36	2.80	.40
	Male Controlled	24.69	2.78	
Compliance	Female Controlled	25.73	3.85	2.17*
	Male Controlled	23.38	3.93	

The values in Table 2 show that females and males whose diabetes was under control did not differ on any dimension of HLC. However, they significantly differed on compliance. Women scored significantly higher on compliance as compared to men.

TABLE 3

Comparison of Female and Male Uncontrolled Diabetes Patients Health Locus of Control and Compliance to Medical Regimen

HLC Dimensions	*Groups*	*Mean*	*SD*	*t-value*
IHLC	Female	19.20	2.43	.319
	Male	18.95	2.93	CHLC
Female	15.49	3.20	.425	
	Male	15.83	2.35	
PHLC	Female	24.69	2.93	.73
	Male	24.98	2.46	
Compliance	Female	20.50	3.29	.272
	Male	20.23	3.59	

The values in Table 3 show no significant difference between the means of male and female uncontrolled diabetes patients on any variable.

Discussion: Diabetes is a serious health problem which requires management through health care behaviors including adherence /compliance to medical regimen. The findings of the present study indicate that patients whose glycemic level is well under control are internally controlled as compared to those whose glycemic level is not under control. These findings are consistent with earlier findings which indicate that people with internal control of health beliefs have better metabolic control in diabetes (Stenstrom, et. al., 1998), general health (Lee Susan, 2003) and beneficial health behaviour such as regular exercise etc. No gender differences could be obtained on health locus of control variables. This

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finding is in consonance with an earlier study conducted byAalto and Uutela (1997) who did not find any difference in locus of control by gender.

Also, controlled diabetes patients were more compliant as compared to uncontrolled diabetes patients. Furthermore, females (with controlled glycemic level) were more compliant with their medical regimen as comparedto their male counterparts.

As the findings of the present study suggest that health locus of control plays an important role in controlling diabetes, interventionprogrammes for diabetes management should aim at improving internal locus of control and encouraging adherence to medical regimen in diabetes patients.

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ADJUSTMENT: AN INDICATOR OF WELL-BEING AMONG YOUNG ADULTS

Rekha, Punam Midha** and Ritu Rani****

ABSTRACT

Adjustment is a continuous process which starts from cradle to grave. The adjustment of young adults is a matter of great concern for the psychologists because numerous responsibilities crop up at this stage of life. How the adjustment in different spheres of life affect well-being is a big query in the existing social scenario? Keeping this in mind, current researchers decided to explore the potency of adjustment to predict well-being among young adults. A purposive sample of 200 young adults aged 18-22 years old, both male and female was drawn from the various colleges of Rohtak city. Results revealed the healthy adjustment pattern and higher quality of well-being. Further regression analysis indicated that two areas of adjustment such as emotional and home are found to be potent predictors of well-being of young adults.

Keywords: Adjustment, Well-being, Predictor, Young adults.

INTRODUCTION

Life is a journey and its different stages are halting stations. Every stage of life demands adjustment, while adjustment goes from birth to death. Adjustment refers to the harmonious relationship between the person and the environment. It is a process in which a living organism maintains a balance between the person and the environment. It is a process in which a living organism maintains a balance between his/her needs and the circumstances that influence the satisfaction of the needs. There are some models which explain and describe adjustment. As moral model defines adjustment or maladjustment in terms of morality norms of expected behaviour of a pattern in a given society. Those

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who follow norms are virtuous and those who don't are called sinners. While micro-biological model holds genetic, physiological and biochemical factors as responsible for one's adjustment. The another model such as Psychoanalytic, where Freud proposed that man is pleasure seeking animal by nature, and always tries to avoid pain. As long as ego maintains a balance between urges of id and superego adjustment is there and when ego fails to do so, the result is maladjustment. On the contrary sociogenic or cultural model emphasizes that adjustment depends upon how much an individual goes by societal norms. These norms are learned through social experience by the individual himself as highlighted by behavioural model.

Adjustment is a continuous process during the life span, first of all it is affected by parental attachment (Engels, Finkenauer & Meeus, 2001; Ross & Fuertes, 2010; Rueger, Malecki, and Demaray 2010), then by schooling where peer groups play a pivotal role in his/her adjusustment (Berndt, Hawkins & Jiao, 1999; Lopez & DuBois, 2005). In young adults stress is an significant factor which adversely affects the physical health (Kohlman & Burns, 1996), and mental health (Degenhardt & Hall 2001), thus leading to maladjustment. However, Well adjustment in one's life leads to higher quality of well-being which is defined as a positive state of human being. There are mainly two approaches which has defined well-being. The hedonistic approach reflects the view that well-being consists of pleasure of senses, while eudemonic view suggests that well-being lies in the actualization of human potentials.

Well-being doesn't simply connotes attainment of pleasure but it involves striving for perfection through realization of one's true potential. It includes six aspects such as autonomy, personal growth, self acceptance, life purpose, honesty and personal relatedness.

Martin Seligman (2011) proposed a PERMA model which is an acronym for a model of well-being, where P indicates positive emotions, E- engagement, R- relationship, M-meaning, A stands for achievement. There are so many components of well-being viz physical, economic, social, emotional and psychological etc. There are plethora of studies which have reported adjustment serves as a resource for one's well-being. As it has been reported that healthy physical life which is gained through physical exercise such as yoga and acrobatics results in positive well-being (Norris, Carroll and Cochrane, 1992; Steptoe & Butler, 1996). Enhanced subjective well-being (Malathi, Damodaran, Shah, Patil & Maratha, 2000) reduced depression, anxiety and improved mental well-being (Fox, 1999; Kirkcaldy, Shephard & Siefen, 2002; Sacker & Cable, 2005; Bray & Kwan 2006; Chavis, 2010; Ussher, Owen, & Whincup, 2007).

Similarly well adjustment in emotional area also enhances emotional well-being (Kannas & Levalahti, 1999; Fredrickson & Joiner, 2002). Abraham, Sommerhalder & Abel, (2010), concluded that better adjustment in social life promotes mental well-being through social support and security. As Aquilino and

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Supple (2001) concluded that maladjustment in home due to faulty parenting leads to lower well-being. However the recent channels of social network such as internet use is not found to be associated with daily well-being (Gross & Gable, 2002). On the contrary Kim and Lee (2011) reported healthy effects of interaction on facebook. On the basis of above findings it may be inferred that the overall healthy adjustment in one's life leads to healthy well-being. The present researchers opted to explore the levels of adjustment and well-being of young adults, who are generally less targeted of the researches.

Objectives

The main objectives of the present study were:

1. To find out the level of adjustment among young adults.
2. To explore the level of well-being of young adults.
3. To investigate the role of adjustment in the well-being of young adults.

METHOD

Design

A correlational design was used in the present study.

Sample

For the present study a sample of 200 undergraduate young adults of both sex (male and female) was selected from the different colleges of Rohtak, Haryana on the basis of purposive sampling technique within the age range of 18-22 years.

Tools

In this study the following tools were used in the present study to collect the required information from the subjects.

Adjustment Inventory for College Students:

Adjustment inventory for college students was given by A.K.P. Sinha and R.P. Singh (1995). This has been designed in Hindi to segregate normal from poorly adjusted college students in respect of five areas of adjustment (Home, Health, Social, Emotional, Educational). It has 102 items (Home 16, Health 15, Social 19, Emotional 31, Educational 21). Transparent scoring keys are provided separately for each area and response marked under circle is considered and each has assigned a weightage of one (1) score. Subjects can be classified into five categories in according with the raw scores obtained by them on the inventory. Individuals scoring high in Home Adjustment tend to be unsatisfactorily adjusted toward their home surroundings.

Low scores in health adjustment indicate satisfactory health adjustment and high scores unsatisfactory adjustment. Individuals scoring low in social adjustment are submissive and retiring. High scores indicate aggressive behaviour. High score in emotional adjustment indicates unstable emotion. Individuals with low

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scores tend to be emotionally stable. Individuals scoring high in educationa adjustment are poorly adjusted toward their curricular programmes. People wit low scores are interested in the educational activities.

- **Reliability:** The coefficient of reliability *i.e.* test-retest is 0.93 an split half is 0.93.
- **Validity:** Item analysis validity coefficients were determined for eac item by biserial correlation method and values were significant at .00 level.

PGI General Well-being Measure

The PGI General Well-being Measure English version was given by S.K Verma and A. Verma (1989). It has twenty items for measuring wellbein (distress, energy level satisfaction, cheerfulness, relaxation, emotional behaviora control etc). A score of one is awarded for marking a tick in the cell agains each item which is applicable on subject. The total wellbeing score is derived b summing the number of ticks with scores ranging from 0-20. According t normative data the higher the score, higher would be the level of wellbeing.

- **Reliability:** The coefficient for test retest reliability is 0.91.

Procedure

The present research work was aimed to explore the levels of adjustmen and well-being of young adults. For this purpose the relevant tools were arranged After that the permission from the principals of the different colleges an consent from students were sought and all the tests were administered on then after establishing rapport with them. Instructions relevant to each test was give to them and they filled the proformas according to the instructions mentioned i proforma.

When the tests were completed, scoring was done according to the norm of each test. Different statistics have been applied to analyze the data includin descriptive statistics (mean, S.D) and regression analysis.

RESULTS AND DISCUSSION

Obtained scores on adjustment and well-being were statistically analysed.

TABLE 1

Obtained Mean and S.D. Scores on Adjustment and Well-being.

Variables	Mean	S.D.	Interpretation
Overall Adjustment	34.27	9.42	Average
Home	5.02	2.11	Average
Health	4.27	1.97	Average
Social	7.52	2.15	Average
Emotional	10.84	3.59	Average
Educational	6.79	2.44	Average
Well-being	15.47	2.54	High level

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Table 1 clearly reveals that overall mean score of adjustment is 34.27, which suggests that young adults have average level of adjustment. Further the adjustment in various areas has been studied in depth. As the mean scores for home, health, social, Emotional and Educational adjustment are 5.02, 4.27, 7.52, 10.84, 6.79 respectively, indicating the average level of adjustment in each area. Interestingly it is observed that none of the participants fall in extreme category of adjustment *i.e.* unsatisfactory or excellent. In this way first objective is meted out which highlights the moderate level of adjustment among young adults.

The second objective is also examined by analysing the mean score for well-being *i.e.* 15.47 indicating the high level of general Well-being. The obtained range of score *i.e.* 13-17 also reveals that none of the participant have poor Well- Being. The overall findings emphasize that these days young adults may have feeling of contentment, happiness, satisfaction with life's experiences. In this way on the basis of current findings it may be inferred that despite the average level of adjustment the young adults are enjoying high quality of Well-Being.

TABLE 2

Summary of Linear Regression adjustment (IV) as a Predictor of Well-being (DV)

Predictor	R	R square	Adjusted R square	Std. error of estimate	β coefficient
Adjustment	.514	.264	.260	2.18	–.514*

*p<.001

Note: Less the scores, better the adjustment.

Dependent variable – wellbeing

Independent variable - adjustment

In order to verify the third objective *i.e.* "To investigate the role of adjustment in the well-being of young adults" linear regression analysis was applied as shown in Table 2. The high value of R (*i.e.* .514) as depicted in table 2 indicates a positive moderate degree and highly significant correlation ($p < .001$) between adjustment and well-being, with 26.4% of variance is predicted by adjustment of youth. The β value (–.514) shows the significance of predictive relationship. This implies that with every unit of increase in adjustment scores (high scores indicates maladjustment), there is likelihood of decrease in the level of well-being (high scores indicates high quality of Well-being). In other words, better the adjustment, healthier is the general Well-Being and Vice-Versa.

Thus the present findings highlight adjustment as a robust predictor of well-being among young adults. The findings are in line with those of earlier findings (Fox, 1999; Sacker et.al, 2005; Aquilino, 2001; Steptoe, 1996). It may be concluded on the basis of current findings that contemporary young adults

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though have been found to be average in adjustment, yet adjustment has emerge a robust predictor of well-being which is found to be of high quality. There is need of enhancement in adjustment level which will automatically enhances th level of well-being among young adults.

The current findings endorse some suggestions that there is a need t enhance the adjustment level of young adults, who are the ignored sample fo researchers.

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PSYCHOLOGICAL DISORDERS: COMPARISON BETWEEN MALE AND FEMALE EXPERIENTS AND NON-EXPERIENTS OF PARANORMAL PHENOMENA

Naved Iqbal, Mehfooz Ahmad**, Sheema Aleem*** and Divya Mudgil*****

ABSTRACT

Mainstream psychology and modern science does not believe in the existence of paranormal phenomena. Some researchers believe that those who claim to have paranormal phenomena also experience psychological problems others do not agree with this view. Therefore, the aim of present study was to see whether the individuals with paranormal phenomena experiences different psychological disorders. The study comprised 115 subjects, 54 experients and 61 non-experients of paranormal phenomena. All the participants were Post Graduate students. They were selected from different departments of Jamia Millia Islamia, New Delhi. Mania scale, schizotypal personality questionnaire, dissociative experience scale, Beck anxiety inventory and Beck depression inventory were administered on the participants to study different psychological problems. ANOVA was used to analyze the obtained data. The results reveal that the experients of paranormal phenomena had reported more manic, dissociative, schizytypal, anxiety, depression as compared to non experient group.

Key Words: Paranormal, mania, dissociative, schizytypal, anxiety, depression.

INTRODUCTION

Thalbourne (2003), a psychologist and a prominent researcher in the field, defined paranormal: A phenomenon is paranormal if it refers to hypothesized processes that in principle are physically impossible and outside the realm of

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human or animal capabilities as presently conceived by conventional scientists... often used as a synonym for "psychic," "parapsychological," "attributable to psi," or even "miraculous" (though shorn of religious overtones). (pp. 83-84)

Paranormal phenomena are studied in parapsychology. Parapsychology is a discipline that seeks to investigate the existence, causes and conditions of psychic abilities, such as telepathy, precognition clairvoyance and psychokinesthesis, it also studies near-death experiences, out-of-the-body experiences, crisis apparitions, retro-cognitions, reincarnation memories, ghosts and life after death and so on by trying to use the scientific method.

Given the fact that more than half of the population has had at least one paranormal experience (Ross & Joshi, 1992), it is important to understand why people have such experiences. They are sometimes considered as being associated with mental disorders and the Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR) provides criteria for several mental disorders accompanied by paranormal experiences. The famous psychiatrist and philosopher Karl Jaspers, in his book General Psychopathology (Jaspers, 1913/1997), stated that all claimed paranormal phenomena could really only be manifestations of psychiatric symptoms.

Those who report paranormal phenomena have been found to experience higher levels than normal of psychological symptoms (McCreery & Claridge, 1995), and those with mental disorders report unusually strong convictions about supernatural phenomena (Ekblad & Chapman, 1983; Thalbourne, 1994). Stronger beliefs in the paranormal have been associated with higher scores on schizophrenia relevant measures in the general population (Thalbourne & French, 1995; Tobacyk & Wilkinson, 1990; Windholz & Diamant, 1974). People who have been diagnosed with psychotic disorders (bipolar, brief reactive psychosis, and schizophrenia) demonstrate a high phenomenological overlap with psi related experiences.

Psychological disorders are of various types. Important among them are:

- **Mania:** The presence of which is a criterion for certain psychiatric diagnoses, is a state of abnormally elevated or irritable mood, arousal, and/or energy levels (Berrios, 2004). In a sense, it is the opposite of depression.

  In addition to mood disorders, individuals may exhibit manic behaviour as a result of drug intoxication (notably stimulants such as cocaine or methamphetamine), medication side effects (notably steroids), or malignancy. However, mania is most often associated with bipolar disorder, where episodes of mania may alternate with episodes of major depression. Gelder et al., (2005) suggests that it is vital that mania is predicted in the early stages because the patient becomes reluctant to comply to the treatment.

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Mania varies in intensity, from mild mania (known as hypomania) to full-blown mania with psychotic features including hallucinations, delusion of grandeur, suspiciousness, catatonic behaviour, aggression, and a preoccupation with thought and schemes that may lead to self neglect. Thalbourne (1999) found that the Manic Experience showed a pattern of relationships with the belief in the Paranormal, absence of Social Naïveté, and Psychoticism.

- **Schizotypal Personality:** According to DSM IV-TR, this disorder is not classified under specific personality disorder but instead along with schizophrenia. Characteristics are as follows:
  1. Inappropriate or constricted affect (the individual appear cold and aloof)
  2. Behaviour or appearance that is odd, eccentric, or peculiar
  3. Poor rapport with others and a tendency to social withdrawal
  4. Odd beliefs or magical thinking, influencing behaviour and inconsistent with subcultural norms
  5. Subconscious or paranoid ideas
  6. Obsessive rumination without inner resistance, often with dysmorphophobic, sexual or aggressive contents
  7. Unusual perceptual experiences including somatosensory (bodily) or other illusion, depersonalization or derealization
  8. Vague, circumstantial, metaphorical, overelaborate, or stereotyped thinking, manifested by odd speech or in other ways, without gross incoherence.

A large amount of research has indeed shown a link between schizotypy and paranormal belief and experiences (Schofield & Claridge, 2007). Cognitive disorganisation was found to moderate the association between schizotypy and subjective quality of paranormal experience, with highly cognitive disorganised participants showing a negative schizotypy/distressing experiences relationship, while cognitively organised participants showed a positive schizotypy/pleasant experiences relationship. These results were interpreted in terms of the protective mechanism of having a framework of belief in which to place paranormal experiences, a mechanism more available to cognitively organised individuals. (Schofield & Gordon, 2007).

Dissociative Disorder

Dissociative Disorder are defined as condition that involve disruption or breakdown of memory, awareness, identity and/or perception. The hypothesis is that symptoms can result, to the extent of interfering with person's general functioning, when one or more of these functions are disrupted.

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The four dissociative disorders listed in the DSM IV TR are as follows

- **Depersonalization Disorder:** Period of detachment from self surrounding which may be experienced as "unreal" (lacking in contr of or "outside of" self) while retaining awareness that this is only feeling and not a reality.
- **Dissociative Amnesia:** (formarly psychogenic amnesia)-noticiab impairment of recall resulting from emotional trauma.
- **Dissociative Fugue:** (formarly psychogenic fugue)-physical desertio of familiar surrounding and experience of impaired recall of the pas This may lead to confusion about actual identity and the assumption a new identity.
- **Dissociative identity disorder:** (formarly multiple personalit disorder)- The alternation of the two or more distinct personalit states which impaired recall, among personality states, of importa information.

Experients were found to show higher levels of disassociating, absorptio paranormal belief, paranormal experience, self-reported psychic ability, fantas proneness, tendency to hallucinate, and self-reported incidence of sleep paralysi (French, 2008). The 9 individuals who reported prior out-of-body experience relative to those 31 who did not, exhibited significantly greater self-reporte dissociative alterations in body-image during the mirror-gazing task, even whe the influence of scores on New Age belief was controlled for statistically. Th same differential relationship was not found between 6 individuals who did an 34 who did not report out-of-body experiences during the task. (Terhun 2006).

Anxiety

Anxiety has become central for psychology at least since Freud. H considered anxiety as "uniquely unpleasant feeling state, accompanied by certai specific efferent phenomena and the perception thereof" (Freud, 1936, p.70 Thus according to him anxiety combines a strongly negative emotional stat (such as fear, worry, uneasiness) with somatic symptoms (such as hea palpitations, fatigue, nausea, chest pain, shortness of breath, stomach aches, headaches), and cognitive representations of that state, involving the perceptio of the emotional and somatic state and experiencing it consciously. *Diagnost and Statistical Manual of Mental Disorders,* fourth edition, text revision (DS IV-TR), anxiety disorders include generalized anxiety disorder (GAD), soci anxiety disorder (also known as social phobia), specific phobia, panic disord with and without agoraphobia, obsessive-compulsive disorder (OCD posttraumatic stress disorder (PTSD), anxiety secondary to medical conditio acute stress disorder (ASD), and substance-induced anxiety disorder.

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This researcher tested the hypotheses Contrary to predictions, they found that belief in the paranormal experiences were not associated with a lessening of death anxiety. Houran (1997). Contrary to hypotheses, neither full Paranormal Belief Scale nor any of 7 paranormal subscale scores showed significant correlations with Trait Anxiety scale scores. Findings support the notion that paranormal beliefs are not associated with less adequate adjustment. Psychological Reports (1982). In a study of psychological impact of telepathic experiences, Stevenson (1970) found the most common emotional responses were anxiety and depression. More generally, the most commonly reported emotions are anxiety and happiness (Irwin, 1999; Milton, 1992).

Depression

Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behaviour, feelings and sense of well-being (Salmans, 1997). Depressed people can feel sad, anxious, empty, hopeless, worried, helpless, worthless, guilty, irritable, hurt, or restless. They may lose interest in activities that once were pleasurable, experience loss of appetite or overeating, have problems concentrating, remembering details, or making decisions, and may contemplate, attempt, or commit suicide, insomnia, excessive sleeping, fatigue, loss of energy, or aches, pains, or digestive problems may also be present (NIMH, 2012). ADHD, dissociation, and depression were associated with enhanced tendencies toward paranormal and cryptozoological beliefs, although participants who believed in each of the phenomena differed from one another in predictable and psychologically distinguishable ways (Matthew et al, 2006). Analysis showed significantly higher depressive attributional styles among high scorers on paranormal phenomena than low scorers (Dudley & Whisnand, 2000).

Rationale

Given the fact that more than half of the population has had at least one paranormal experience (Ross & Joshi, 1992), it is important to understand why people have such experiences. They are sometimes considered as being associated with mental disorders. This association was confirmed by several studies showing a correlation between paranormal beliefs and magical ideation (Eckbald & Chapman, 1983; Tobacyk & Wilkinson, 1990), hypomania and schizophrenia (Windholz & Diamant, 1974), manic depressiveness (Thalbourne & French, 1995) and negative relation with psychological adjustment (Irwin, 1991). On the other hand, some research has suggested that there is no link between paranormal experiences and mental health disorders (Goulding, 2004). Therefore, present study was an effort to explore the psyche of those people who have paranormal experiences in terms of certain psychological problems and compare them with those who do not have such experiences.

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METHODS

Participants

Total participants of the present study comprised 115 subjects, 54 experients and 61 non-experients of paranormal phenomenon. There were 26 males and 28 females in experients group. There were 31 male and 30 female in non-experient group. All the participants were Post Graduate students. The age ranged from 20-24 years. They were selected from different departments of Social Science faculty such as Political science, Psychology, Economics and Sociology of Jamia Millia Islamia, New Delhi.

Tools

Goldberg's Mania Scale: This scale consists of 18 items developed by pioneering researcher Dr Ivan K Goldberg (1993). It is a brief self- report questionnaire designed to identify the patients with mania psychopathology. Contents for the scale's 18 items were garnered from extensive interviews with dissociative patients and consultation with clinical experts. In this scale there are 18 questions which were used to rate mania. On the basis of answers to these questions, the investigator could rate person on mania. The response categories of the scale are:

1. Not at all
2. Just a little
3. Some What
4. Moderately
5. Quite a lot
6. Very Much

Schizotypal Personality Questionnaire: The SPQ-B (Raine and Benishay, 1995) is a 22 item dichotomous (yes/no) questionnaire derived from the larger SPQ questionnaire (Raine, 1991). The 22 items in the new SPQ- B scale, each question answered affirmatively receives a score of 1, so that scores can range from a minimum of 0 to a maximum of 22.

Dissociative Experience Scale: This scale was developed by Carlson & Putman (1995). It is a brief self-report questionnaire designed to identify patients with dissociative psychopathology and to provide a means of qualifying experiences. The scale tape a broad range of dissociativ experiences including disturbances in memory, identity and cognition, feeling of derealization, depersonalization, absorbtion an imaginative involvement. The DES II uses a more convenient 11 point Likert Scale. The Response are ranging from never to always. Total scores are obtained by averaging the item scores. The weihted means of the test-retest and internal consistency reliabilities from these studies are .85 and .93 respectively.

Beck Anxiety Inventory: This inventory was developed by Beck, Epstein, Brown, & Steer (1988). BAI is a 21-question multiple-choice self-report inventory

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that is used for measuring the severity of an individual's anxiety. How the subject has been feeling in the last week, expressed as common symptoms of anxiety (such as numbness, hot and cold sweats, or feelings of dread). Each question has the same set of four possible answer choices, which are arranged in columns and are answered by marking the appropriate one with a cross. The response categories are as follows:

1. Not At All
2. Mildly but it didn't bother me much.
3. Moderately – it wasn't pleasant at times
4. Severely – it bothered me a lot

Beck Depression Inventory: Depression was measured by Beck Depression Inventory developed by Beck, Steer, & Brown, (1996). BDI-II contains 21 questions, each answer being scored on a scale value of 0 to 3. The test was also shown to have a high one-week test–retest reliability (Pearson r = 0.93), suggesting that it was not overly sensitive to daily variations in mood. The test also has high internal consistency (α = .91).

Procedure

The experients of paranormal phenomena were identified with the help of interview schedule. It had six question which were based on different paranormal abilities *i.e.* precognition, telepathy, clairyoyance and PK. Those who responded positively on at least two questions were considered as experients. After the informed consent had been taken the students were asked to fill the questionnaire. Before handing over the questionnaire to them, they were briefed about it and were asked to mark the answers as suited to them. Obtained data were analyzed with the help of ANOVA.

RESULTS

The obtained results are presented in the following tables.

TABLE 1

Showing Means of different Groups on Mania

Gender	Types of Experients		Mean of Mania
	Experients	Non-experients	
Males	44.46	34.42	39.44
Females	34.46	26.47	30.46
Total Mean	39.28	30.51	

Table 2 revealed significant F-ratios for type of experients and gender on mania at .01 levels. However, Interaction effect was not found to be significant at .05 levels. Table-1 showed that experients of paranormal scored higher than non-experients and male scored higher than females on Mania.

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TABLE 2

Showing ANOVA Summary for Mania

Source	Df	Mean Square	F	Sig
Type	1	2328.403	14.782	.000
Gender	1	2305.264	14.635	.000
Type * Gender	1	1129.909	.190	.664
Error	111	157.517		
Total	115			
Corrected Total	114			

TABLE 3

Showing Means of different Groups on Schizotypal Personality

Gender	Types of Experients		Mean of Mania
	Experients	Experients	
Males	10.77	7.77	9.27
Females	11.61	6.23	8.92
Total Mean	11.20	7.02	

TABLE 4

Showing ANOVA Summary for Schizotypal Personality

Source	Df	Mean Square	F	Sig
Type	1	501.102	21.2011	.000
Gender	1	3.535	.143	.706
Type * Gender	1	40.486	1.633	.204
Error	111	24.794		
Total	115			
Corrected Total	114			

Table 4 showed significant F-ratio at .01 levels for type of experients on schizotypal personality. Gender and interaction effect were not found to be significant at .05 levels. Table-3 revealed that experients group scored higher than non-experients group on schizotypal personality.

TABLE 5

Showing Means of different Groups on Dissociative Disorder

Gender	Types of Experients		Mean of Mania
	Experients	Experients	
Males	117.73	100.84	109.28
Females	109.07	80.53	94.8
Total Mean	113.24	90.85	

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TABLE 6

Showing ANOVA Summary for Dissociative Disorder

Source	Df	Mean Square	F	Sig
Type	1	14766.688	6.504	.012
Gender	1	6002.515	2.644	.107
Type * Gender	1	970.400	.427	.515
Error	111	2270.312		
Total	115			
Corrected Total	114			

Table 6 reveals significant F-ratio for type of experients on Dissociative Experiences at .01 levels. However, gender and interaction effect were not found to be significant at .05 levels. It may be observed from table-5 that experients group scored higher than non-experient group on this dimension.

TABLE 7

Showing Means of different Groups on Anxiety

Gender	Types of Experients		Mean of Mania
	Experients	Experients	
Males	17.85	12.87	15.36
Females	15.29	10.03	12.66
Total Mean	16.52	11.48	

TABLE 8

Showing ANOVA Summary for Anxiety

Source	Df	Mean Square	F	Sig
Type	1	748.410	11.824	.001
Gender	1	208.484	3.294	.072
Type * Gender	1	.550	.009	.926
Error	111	63.293		
Total	115			
Corrected Total	114			

Table 8 revealed significant F-ratio at .01 levels for type of experient of paranormal phenomena. Significant differences were not found at .05 levels for gender and interaction effect. Table-7 showed that experients group experienced more anxiety than non-experients group.

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TABLE 9

Showing Means of different Groups on Depression

Gender	Types of Experients		
	Experients	Experients	
Males	18.46	15.94	17.20
Females	19.50	11.60	15.55
Total Mean	19.00	13.80	

TABLE 10

Showing ANOVA Summary for Depression

Source	Df	Mean Square	F	Sig
Type	1	777.740	6.830	.010
Gender	1	77.775	.683	.410
Type * Gender	1	206.624	1.814	.181
Error	111	113.879		
Total	115			
Corrected Total	114			

Table 10 revealed significant F-ratio at .01 levels for type of experient of paranormal phenomena. It may be seen from table-9 that experient group scored higher than non-experients group on anxiety. ANOVA summary Table also reveals that F-ratio was not significant for gender and type- gender interaction at .05 levels.

Discussions

The present study examined the relationship between paranormal experiences and several psychological disorders. Resutls showed (table-1 & 2) that experients of paranormal phenomena had reported more manic symptoms than non-experients group and males reported more manic symptoms than females. Similar findings has been reported by Thalbourne (1999) who found that the Manic Experience showed a pattern of relationships with the belief in the Paranormal, absence of Social relationship, and Psychoticism. Manic experiences measures of paranormal experiences correlate positively with experiences of mania, sometimes in excess. Also paranormal experience correlates significantly positively with the Hypomaniac scale of MMPI: .37 with university students and comparably with patients groups 50 (Thalbourne & Delin, 1994). The seven correlates ranged from .18 to .57 with a moderate median of .41.

Table 3 & 4 revealed that the experient group of paranormal phenomenon had reported more schizotypal symptoms than non-experient group. Other studies has also reported similar findinds. Cognitive disorganisation was found to moderate the association between schizotypy and subjective quality of paranormal experience, with highly cognitive disorganised participants showing a negative schizotypy/

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distressing experiences relationship, while cognitively organised participants showed a positive schizotypy/pleasant experiences relationship. These results were interpreted in terms of the protective mechanism of having a framework of belief in which to place paranormal experiences, a mechanism more available to cognitively organised individuals. (Kerry Schofield and Gordon Claridge, 2007). Similarly, Paranormal belief was heavily associated with the cognitive-perceptual component of schizotypy (Hergovich, 2007). In their advanced study Hergovich et al (2008) confirms previous studies showing stronger relations between paranormal belief and the cognitive-perceptual component of schizotypy than to the factors 'interpersonal' and 'disorganized'.

Results also indicated that the experients group of paranormal phenomena had reported more dissociative symptoms than non-experient group. The findings could be supported by the findings of French (2008) who found that the experients showed higher levels of dissociativity, absorption, paranormal belief, paranormal experience, self-reported psychic ability, fantasy proneness, tendency to hallucinate, and self-reported incidence of sleep paralysis. Similarly, the 9 individuals who reported prior out-of-body experiences, relative to those 31 who did not, exhibited significantly greater self-reported dissociative alterations in body-image during the mirror-gazing task, even when the influence of scores on New Age belief was controlled for statistically.

The same differential relationship was not found between 6 individuals who did and 34 who did not report out-of-body experiences during the task (Terhune, 2006). In another study scores on dissociation were positively correlated with those on global paranormal belief and with belief in psi, precognition, spiritualism, and extraordinary life-forms (Irwin, 1994). In the same way Zingrone and Alvarado (1994) reported that in their sample DES score were significantly higher in paranormal/spiritual experiements compared with non-experiments ($d = .62$) and higher in persons with multiple mystical experiences versus non-experints, $t(50) = 3.56$, $p = .0001$.

Results showed that the experients of paranormal phenomena had reported more anxiety symptoms than non-experient group. Houran (1997) found that belief in the paranormal experiences were not associated with a lessening of death anxiety. Contrary to hypotheses, neither full Paranormal Belief Scale nor any of 7 paranormal subscale scores showed significant correlations with Trait Anxiety scale scores. Results indicate death anxiety, as measured by the ATDS, showed significant relations with paranormal beliefs and experiences. Present findings provide strong evidence for earlier contentions that paranormal beliefs serve a function analogous to traditional religious beliefs in reducing death anxiety (Lange & Houran 1997). They also indicated decreases in fear of death, depression or anxiety, isolation and loneliness, and worry and fears about the future. A large majority of respondents indicated that these effects resulted from

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a combination of more than one paranormal and/or transcendent experience (Kennedy & Kanthamani, 1995).

Present investigation also showed that individuals who experienced paranormal phenomenon had reported more depressive symptoms than those who did not. Other studies also support the present findings. Matthew, Justin and Janet, (2006) found that the ADHD, dissociation, and depression were associated with enhanced tendencies toward paranormal and cryptozoological beliefs, although participants who believed in each of the phenomena differed from one another in predictable and psychologically distinguishable ways. Similar results were observed in the analysis, in which significantly higher depressive attributional styles among high scorers on paranormal phenomena than low scorers (Dudley et al, 2000).

CONCLUSION

In sum, experients of paranormal phenomena reported more psychological problems than non-experients of paranormal phenomena.

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RE-VALIDATION OF THE RECOVERY FROM ILLNESS SCALE BY RASCH AND CONFIRMATORY FACTOR ANALYSIS

Mohammad Imran Khan and Abhay Kumar Srivastava***

ABSTRACT

The recovery from illness scale is designed to measure the illness recovery among people suffering from medically manageable non-terminal psychosomatic illness as a unidimensional construct. The scale consists of nine items. The aim of this study was to re-validate the unidimensional structure of the scale through confirmatory factory analysis (CFA) and to compare the factor structure with Rasch analysis. 140 participants suffering from various chronic and non-chronic (non-terminal) illnesses responded on the scale. CFA was carried out to confirm the unidimensional structure of the scale. Initially, uncorrelated and correlated residual term models (based on modification indices) were tested. Out of nine items one item found loading almost nil (β=0) and hence it was removed. Model was re-tested after removing the item. Correlated residual term model found better fitting with the data. Internal consistency (crobach's alpha) of the scale was calculated to further ensure the unidimensionality in the data. Once ensuring the unidimensional structure of the scale by using CFA, Rasch analysis was carried out. Results of Rasch analysis revealed two misfitted items based on item fit (infit and outfit) statistics. After deletion of the misfitteditems, Rasch data-model fit was achieved. Unidimensionality was confirmed with the principal component analysis of Rasch residuals. Unidimensionality and model fit of Rasch fitted model was compared with the unidimensional model obtained through CFA. Model fit values and item loading of both the model found almost similar. Although, Rasch model resulted in improved psychometric properties of the scale as evident through item and person separation indices.

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Keywords: Illness recovery, Rasch, illness, confirmatory factor analysis, validity Re-Validation of the Recovery from Illness Scale by Rasch and Confirmatory Factor Analysis

INTRODUCTION

The ultimate goal of any health care practice is to improve the subjective well-being and quality of life. In this context, assessment of treatment effectiveness can be considered as an important factor in determining the quality of life (Guyatt, Feeny, & Patrick, 1993). General discussion related with the subjective well-being as conceptualized by Diener (1984) has emphasized on the importance of global and domain specific life satisfaction (Diener, Suh, Lucas, & Smith, 1999). In the context of clinical assessment of health related quality of life (HRQOL) has been much emphasized as domain satisfaction and several mechanisms related with elevated level of HRQOL has been linked through the pathways of treatment adherence, self-efficacy and many other psychological factors (Kamalski, Hoekstra, van Zanten, Grolman, & Rovers, 2010; Guyatt, Feeny, & Patrick, 1993).

Since last couple of decades, HRQOL has been considered as a significant treatment outcome measure as an indicator of treatment effectiveness (Kamalski, Hoekstra, van Zanten, Grolman, & Rovers, 2010). However, with the paradigm shift in the medical science approaches to illness treatment, general life expectancy has been increased. Hence, in addition to the HRQOL, subjective *feeling* of faster recovery may also be an important predictor of treatment effectiveness. There may be several reasons for considering subjective evaluation of recovery from illness. For example, with the technological advancement of treatment modalities, course and duration of treatment has decreased for many illnesses, many diseases that have earlier been considered as incurable are now very well medically manageable and curable.

Therefore, with the appropriate application of treatment methods, faster recovery from illness is expected. Consequently, quantum of the subjective recovery from illness is necessary to be assessed for ensuring the optimal treatment effectiveness. Further, due to advancement in the treatment technologies many diseases like diabetes or coronary heart disease are well medically manageable resulting in significant increase in number of chronically ill patients. Reduction of physical symptoms, pain and discomfort are very important indicators of treatment outcome measures related with subjective well-being or health related quality of life. Therefore, objective measure of recovery from illness related symptoms may be considered as an important variable in determining the medicinal dose, treatment modality and overall health care practice.

The concept of recovery has recently gained the health care related attention during the last decades (Shepherd, Boardman, & Slade, 2008). Recovery has been defined as the process of managing illness, moving out from the devastating

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effects of illness and ability to manage a meaningful life (Anthony, 1993; Meddings & Perkins, 2002). The concept of the assessment of recovery from the symptoms can be considered to fall on a continuum ranging from very subjective to more objectives (Hopper, 2004; Warner, 1994; WHO, 1979). Objective measures of recovery from illness mainly focus on symptomatic and functional aspects (Davidson, 2003; Ridgway, 2001).

There has been some relatively widely used measures of illness recovery measures in the field of psychiatric mental health practices, for example, Illness management and recovery scale (IMR) (Mueser & Gingerich, 2005) and recovery markers questionnaire (RMQ) (Ridgway & Press, 2004). However, no psychometric tool is available to measure illness recovery, especially for the psychosomatic illnesses and more specifically in Indian population except recovery from illness scale (Srivastava, 2008).

However, as the concept of psychometric assessment of illness recovery has been given significant consideration in the assessment of treatment effectiveness. Still the effectiveness of the construct has not been much established. Therefore, the present study was undertaken to evaluate the psychometric properties of the recovery from illness scale through classical test theory (CTT) approach of confirmatory factor analysis (CFA) and item response theory under Rasch rating scale model. CTT is based on the approach of estimating average error in the test score in a given sample and set of test items (Fan, 1998; Anastasi & Urbina, 2002).

Unlike CTT which is based on the observed score theory, IRT belongs to the family of psychometric approach which is based on the true score theories (Fan, 1998; Embretson & Reise, 2000). As a theoretical assumption, IRT adopts an explicit model for the probability of each possible alternative response, based on the function of the latent trait and certain item parameters. The fundamental feature of IRT is that performance on an item is related to the estimated amount of respondent's latent trait (Anastasi & Urbina, 2002). There are different families of IRT models like binary IRT models, such as one parameter logistic model (1-PL) assessing difficulty parameter, two parameter logistic model (2-PL), assessing difficulty and discrimination parameters and three parameter logistic model (3-PL), assessing difficulty, discrimination and guessing parameters.

Apart from these binary IRT model there are also partial credit, graded response and rating scale models. Rasch family of IRT model is special case of 1-PL IRT model that assumes discrimination parameter to unit (Rasch, 1960/1980; Bond & Fox, 2001). Rasch measurement model is based on the sufficient statistic and generally makes use of conditional maximum likelihood for parameter estimation. Describing in detail about the estimation procedure and differences in Rasch and non-Rasch approach is outside the scope of the paper (for further details refer to Rasch (1960/1980), Fox and Jones (1998), Wright and Stone (1979), Bond and Fox (2001)).

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Rasch is the simplest but most stringent IRT model in its parameter specification for data-model fit assessment (Bond & Fox, 2001; Rasch, 1960/1980). The basic strength of the Rasch analysis is the sample or population independent estimation of item parameter (Wright & Stone, Best Test Design, 1979). It provides the estimate of goodness of fit between the item difficulty and person ability on the same invariant (logit) scale (Wright, 1992). Assumptions of Rasch models include unidimensionality, local independence and parameter invariance (Bond & Fox, 2001; Rasch, 1960/1980). These properties of Rasch measurement are its unique features that make it applicable for construct validation as well as for objective measurement in any field of psychometric evaluation.

Recently there has been an increasing trend for using Rasch measurement model in the health research (Fox & Jones, 1998; Ramp, Khan, Misajon, & Pallant, 2009). The implication of Rasch approach in health psychological research has been motivated by several potential advantage of Rasch model. For example, reducing the number of items in the scale without any loss in the psychometric properties, ability to identify items not-fitting with the data, ensuring parameter invariance and sample independent estimation of item parameters (Hambleton, Swaminathan, & Rogers, 1991; Hambleton & Swaminathan, 1985).

METHODS

Participants

Patients suffering from various chronic and non-chronic illnesses participated in the study. Data was collected on 140 respondents of both the gender. Patients in the chronic illness group were having health problems mainly related with asthma, hypertension, diabetes, and coronary heart disease. Patients under non-chronic illness group were having very common health problems like common cold, irregular bowl syndrome or allergy etc. Patients suffering from any kind of terminal illness such as cancer, AIDS/ HIV, or degenerative neurological problems like dementia etc. were excluded from the study. Further, participants suffering from any type of physical abnormalities like blindness, skelto-muscular abnormalities such aspolio and amputation of limb etc. were also excluded from the study. Age range of the patients was 25 to 65 years (mean age 48.50 years).

Instrument

Recovery from Illness Scale: Recovery from illness scale was developed to measure the illness recovery among people suffering from non-chronic and chronic (medically manageable) psychosomatic illness. This scales consisted of nine likert type items to be rated on four point scale viz. totally agree, somewhat agree, somewhat disagree and totally disagree. For positively worded items responses were coded as 3 for totally agree to 0 for totally disagree. Reverse scoring was done for negatively worded items. These items were framed to tap

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the subjective experience in the improvement of physical illness, like "I experience quick recovery (in the symptoms)" (Srivastava, 2008).

Procedure

Participants of the study were approached either with the recommendation and consent of the concerned physician in out-patient door section of the hospitals or in the private clinics of the medical practitioners. Diagnosis was confirmed with the physician before administering the tool to ensure the inclusion/ exclusion criteria. All the participants were currently not having any sever physical discomfort and were able to give their response on the scale. Participants were briefed about the purpose of the study. After taking their verbal consent scale was administered.

It was ensured that participants have given their response on all the items. Incomplete data sets were excluded from the analysis.

Statistical Analysis

Confirmatory Factor Analysis and Scale Reliability: Purpose of carrying the confirmatory factor analysis was twofold. First to ensure the unidimensionality of the construct, as one of the basic assumption of the Rasch analysis and second, ensuring the latent structure of the construct by investigating the data model fit and item loadings on the construct. Model fit indices of significance of chi-square<.05, chi-square/df (between 5 to 2), Goodness of fit index (GFI)>.95, incrimental fit index (IFI) >.95, Tucker-Lewis Index (TLI)>.90, Comparative Fit Index (CFI) >.95 and root mean square error approximation (RMSEA)<.05 were used to judge model fit (Tanaka, 1993). Item loading was judged through standardized loading coefficients and significance level <.05. Inter item consistency (cronbach's alpha) was computed to ensure the scale reliability.

Rasch Analysis

Rasch rating scale analysis was carried out by using "Bond & Fox Steps", a customized version of Winsteps (Bond & Fox, 2007).

Rasch Fit Statistics

Rasch fit statistics ensures the item fit with the Rasch model. There are two commonly used fit statistics which are the mean square (MNSQ) infit and outfit statistics. The mean square fit statistics has the chi-square distribution and has the expected value of one. The value of the infit and outfit can ranged from 0 to positive infinity. Infit and outfit mean squares are the squared values of the residuals of difference between the values observed and the value predicted by the model. MNSQ greater than one demonstrates over variation between the model and the observed values. For example, MNSQ of 1.4 indicate 40% over variation of noise than predicted by the Rasch model. Similarly, MNSQ value less than one demonstrate under variation. For example, MNSQ of .6 indicates

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40% under variation or overlap in item score than predicted by the Rasch model (Bond & Fox, 2001).

The outfit MNSQ statistics is the average standardized unweightedresidual variance across item and person, indicating that the estimate is more affected by unexpected responses. The infit MNSQ is the weighted residuals according to their individual variance to minimize the effect of unexpected response at distant from the measure. It is more influenced by the unexpected response closure to item or person measure (Bond & Fox, 2001). The t-value of infit and outfit MNSQ can be obtained by converting it to normalized t-statistics by using Wilson-Hilferty transformation. The t-statistics has expected value of 0 and standard deviation of unit. Value between –2 to +2 indicates acceptable item fit.

The infit and outfit statistics are the measures of internal validity of the response pattern (Linacre & Wright, 1994). It is the widely used statistic in applying Rasch analysis for the psychometric evaluation of the assessment tools. The ideal value is one to indicate best data-model fit. Wright, Linacre Gustafson, and Martin-Lof (1994) have suggested the value of MNSQ falling in between 0.6 to 1.4 indicates good Rasch model fit. Whereas, Wolfe and Chiu (1999) suggest the value between 0.8 to 1.4. Taking a more stringent criterion Mok, Cheong, Moore, and Kennedy (2006) suggested it between 0.7 to 1.3 Following the Mok et al. suggestion, MNSQ value between 0.7 to 1.3 has been used to judge the item data fit. Apart from the MNSQ, standardized fit value was also used. Standardized MNSQ value (t-value) has the normal distribution. Value between –2 to 2 indicates acceptable model-data fit(Bond & Fox, 2001). Bond & Fox step produce z-value equivalent to t-value.

Dimensionality

Unidimensionality assumption is related with the concept that only single underlying construct is responsible in the variation of the examinees' responses. Violation of this assumption can result in severe biases in item and person parameter estimations. Bond & Fox Steps (Winsteps) makes use of Principal Component Analysis (PCA) of Rasch residuals. In PCA of Rasch residuals, first of all item trait level is estimated and then the residual is analyzed for its meaningful structure. If data is closure to the Rasch measurement model, then residual factor loading will be smaller (Linacre, 2010). To ensure unidimensionality in the construct a cutoff value of 60% of the variance explained by the measurement and an eigenvalue of 3 or less and total percentage variance of 5 or less should be explained by first contrast of unexplained variance (Linacre, 2010).

Reliability

The Rasch measurement model provides two types of item and person reliability indices, *i.e.* separation index and reliability index. Separation index indicates the number of level into which item and person can be separated. The person reliability indicates that the sample would perform in same way on

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another parallel set of items measuring the same latent trait (Wright & Masters, 1982). Person separation (G_p) > 1.0 indicates that the measurement is spread over a continuum with sufficient breadth in position. It is equivalent to cronbach's alpha. Item separation (G_i) >1.0 indicates a broader spread in the latent trait measured by the items (Linacre, 2010).

RESULTS

Confirmatory factor with all the 9 items in the scale (Fig. 1a) resulted in unacceptable model fit as indicated by model fit indices, except of IFI (>.95) and CFI (>.95). Further to check the unidimensionality, model was re-tested with some of the correlated residual terms as indicated by the modification indices (Fig 1b). Correlated residual terms model resulted into good model fit. Item loadings obtained through both the correlated and uncorrelated residual term model were almost similar and significantly loaded (p<.01) except for Item 4. Item 4 showed almost nil loading in both the models and hence considered as misfit item. Results are summarized in table 1.

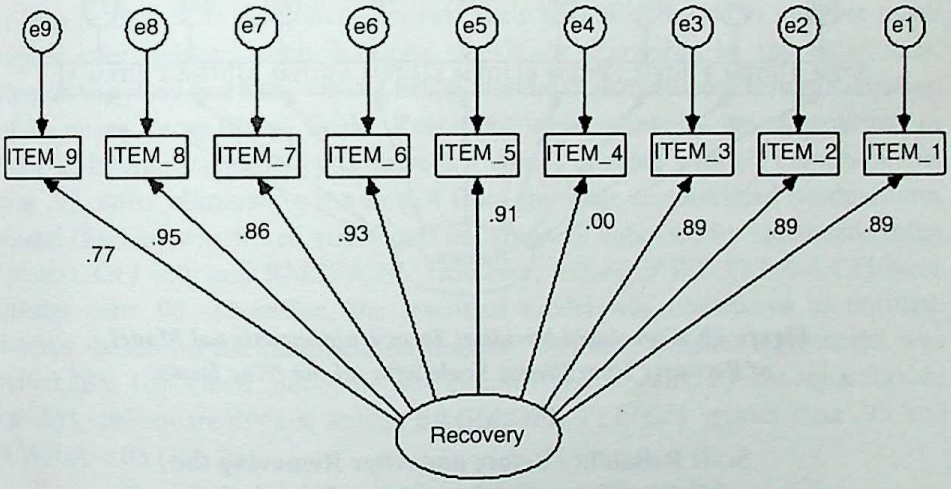

Figure 1a. Uncorrelated Residual Term Unidimensional Model of Recovery from Illness Scale with all the Nine Items.

TABLE 1

Model Fit Summary as Tested Before and After Fitting with CFA and Rasch Analyzed Model.

Model Fit Indices	With all the 9 items		After Removing Misfitted Item		After Fitting With the Rasch Rating Scale Model	
	Un-correlated Residual Term	*Correlated Residual Term*	*Un-correlated Residual Term*	*Correlated Residual Term*	*Un-correlated Residual Term*	*Correlated Residual Term*

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Chi-Sq	84.790*	27.032	74.247*	20.732	23.563*	9.087
Chi-Sq/df	3.14	1.287	3.712	1.382	2.618	1.298
GFI	0.895	0.961	0.893	0.967	.952	.980
IFI	0.959	0.996	0.962	0.996	.985	.998
TLI	0.945	0.993	0.946	0.992	.974	.995
CFI	0.959	0.996	0.962	0.996	.985	.998
RMSEA	0.122	0.045	0.137	0.052	.106	.046*

p<.05

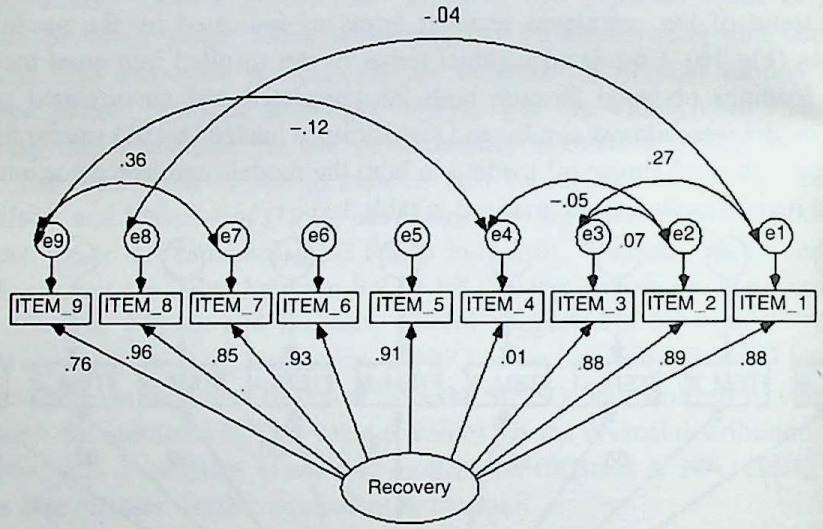

Figure 1b. Correlated Residual Term Unidimensional Model of Recovery from Illness Scale with all the Nine Items.

TABLE 2

Scale Reliability Before and After Removing the Misfitted Items in CFA and Rasch Analysis.

	Scale Reliability (Alpha If Item Deleted)		
Item No	**With all the 9 items**	**After Removing Misfitted Item**	**After Fitting With the Rasch Rating Scale Model**
1	0.917	0.961	.951
2	0.919	0.962	.951
3	0.918	0.962	.952
4	0.966	Removed	Removed
5	0.918	0.961	.951
6	0.916	0.960	.950

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7	0.918	0.962	.955
8	0.913	0.960	Removed
9	0.925	0.968	Removed
Total Scale Reliability	0.933	0.966	.960
Rasch Reliability			
Person Separation	—	3.22	3.21
Person Reliability	—	.91	.91
Item Separation	—	1.13	1.30
Item Reliability	—	.65	.63

However, since there is no theoretical assumption for the relationship in the residual terms related with the construct, cronbach's alpha and scale reliability, if item deleted, was computed. Further, scale reliability found to increase much higher after deleting Item 4 (alpha = .97), as compared to any other item. Results indicated that Item 4 is not fitting into the unidimensional conceptualization of Recovery form Illness Scale. Results of scale reliability are summarized in table 2. Internal consistency (cronbach's alpha) of scale with all the nine items was .93. After eliminating the item 4 from the scale uncorrelated residual term model (Fig 2a) was tested and found not fitted as indicated by chi-square value (p>.05), GFI <.9, and RMSEA >1. However, values of IFI, TLI and CFI were greater than .95. Therefore, the specified model was considered as unfitted. Further, based on the modification indices correlated residual term model was tested (Fig 1d). Good model fit was obtained as indicated by chi-square value (p>.05), chi-square/df<1.5, values of GFI, IFI, TLI, CFI greater than .95 and RMSEA =.05 (Fig 2b).

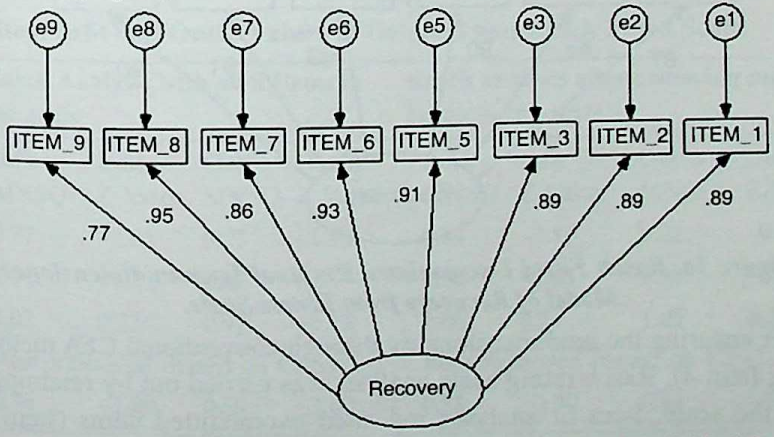

Figure 2a. Uncorrelated Residual Term Unidimensional Model of Recovery from Illness Scale after Removing Item 4.

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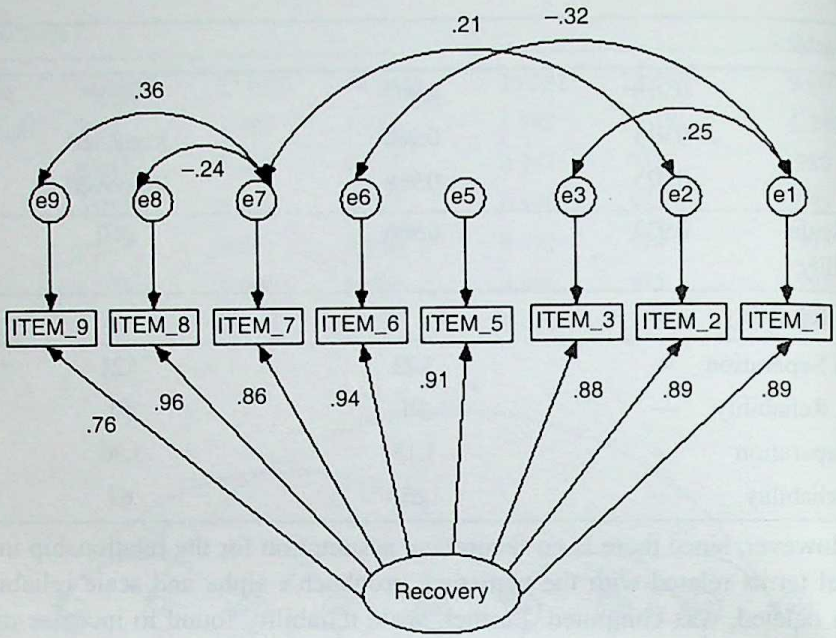

Figure2b. Correlated Residual Term Unidimensional Model of Recovery from Illness Scale after Removing Item 4.

Although, in both the models (Fig. 2a and Fig 2b), item loadings of all items were significantly loaded (p<.05) and were almost similar. Item loadings in both the models were higher than .85 except for Item 9, which was again within acceptable range (>.7).

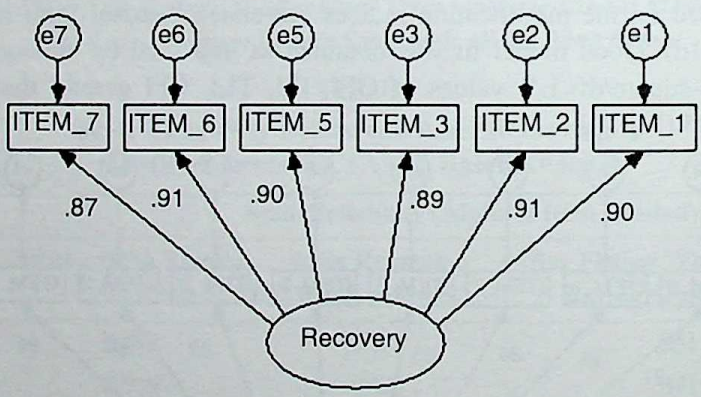

Figure 3a. Rasch Fitted Uncorrelated Residual Termunidimensional Model of Recovery from Illness Scale.

After ensuring the unidimensionality through conventional CFA method (by removing Item 4), Rasch rating scale analysis was carried out by retaining eight items in the scale. Item fit analyses indicated twomisfitted items (Item 7 and Item 8) as evident through the infit and outfit MNSQ values > 1.3 or <.7 and z-

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values > ±2. Results of Rasch item fit statistics are summarized in table 3. Although, the PCA of Rasch residual analysis indicated towards the unidimensional nature of the data as indicated through eigenvalue of the total variance explained by the measure is greater than 60% and the eigenvalue of the unexplained variance in the first contrast is less than 3. Total percentage of unexplained variance in the first contrast was also less than 5. Results of PCA of Rasch residuals are summarized in table 4.

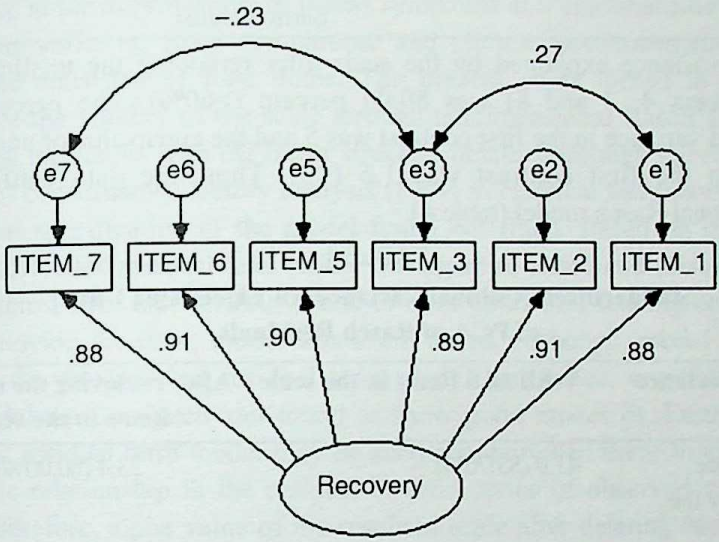

Figure 3b. Rasch Fitted Correlated Residual Term Unidimensional Model of Recovery from Illness Scale.

The most misfitted items, *i.e.* item number 7 and 8 were excluded from the scale. Scale was again re-analyzed with the remaining 6 items. All the remaining items, after excluding items 7 and 8, found within acceptable range of fit values (MNSQ ranged from .7 to 1.3 and z value between -2 to 2) (table 3).

TABLE 3

Item Infit and Outfit Values of Original and Rasch Fitted Scale.

Item No.	Rasch Analysis with all 8 Items in the scale				Rasch analysis after removing misfitted Items in the scale			
	Infit MNSQ	Infit Z-Value	Outfit MNSQ	Outfit Z-Value	Infit MNSQ	Infit Z-Value	Outfit MNSQ	Outfit Z-Value
1	0.77	–2.05	0.77	–1.94	0.87	–1.16	0.92	–0.63
2	0.84	–1.23	1.02	0.15	0.80	–1.61	0.88	–0.77
3	1.02	0.22	0.97	–0.12	1.06	0.51	1.00	0.03
4	Item Removed (based on CFA)				Item Removed (based on CFA)			
5	0.76	–1.80	0.69	–2.00	0.88	–0.90	0.86	–0.90

Contd. table 3...

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6	0.85	–1.15	0.83	–1.13	1.00	0.01	1.03	0.24
7	1.11	0.83	1.01	0.15	1.28	2.01	1.24	1.57
8	0.63	–3.14	0.59	–3.00	Item Removed (based on infit and outfit values)			
9	1.88	5.74	2.01	5.85	Item Removed (based on infit and outfit values)			

Total variance explained by the scale after removing the misfitted items (item numbers 4, 7 and 8) was 80.00 percent (>60%). The percentage of unexplained variance in the first contrast was 5 and the eigenvalue of unexplained variance in the first contrast was 1.6 (<3). Thus, the data confirms the unidimensional Rasch model (table 4).

TABLE 4

Standardized Residual Variance (In Eigenvalue Units) of PCA of Rasch Residuals.

Source of Variance	With all 8 Items in the scale	After removing the misfitted items in the scale
Total Variance Explained by the Measures	41.0 (83.70%)	23.4 (80.00%)
Unexplained Variance	8.0 (16.30%)	6.0 (20.00%)
Unexplained variance in 1st contrast	1.9 (3.90%)	1.6 (5.00%)

Psychometric properties of the resultant scale after Rasch analysis were re-investigated to compare it with the original conceptualization of the scale. Unacceptable fit was found for un-correlated residual term model as indicated though only chi-square value ($p<.05$) and RMSEA>.1. Apart from these indices, values of GFI, IFI, TLI and CFI were all higher than .95. Thus, model may be considered as marginally fit with the data. However, as compared to other uncorrelated residual term model, the Rasch fitted model was found to demonstrate relatively higher fit with the data. Moreover, based on modification indices, correlated residual term model was tested and found well fitted with the data (table 1).

Alpha, if item deleted, found similar for all the items and ranged between .95 to .96. Internal item consistency in the scale (cronbach'salpha) was .96 which is almost similar to the non-Rasch fitted scale but was much higher than the original 9-item scale (table 2). Rasch fitted scale resulted into improved

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psychometric properties as indicated through item and person separation index and reliability. Person separation index and reliability of both the (8-item scale and Rasch fitted) scale were similar, whereas, the item reliability was found to improve in the Rasch fitted scale (table 2).

DISCUSSION

Recovery form illness scale was constructed to measure the subjective experience in the improvement of illness symptoms as a unidimensional construct in patients suffering from non-chronic and chronic psychosomatic illnesses. This scale consisted of nine items. The present study aimed to further re-investigate the validity of the scale through unidimensional Rasch analysis and comparing the results with the factor structure obtained through the conventional method of confirmatory factory analysis (CFA) in classical test theory.

Initial specification of the model found not fitted. Based on modification indices, correlated residual term model was again re-tested and found fitted. Out of nine items, item number four found to have almost nil loading on the factor. After removing the item, model was again tested. Although, model fit was not obtained for uncorrelated residual term model and hence, correlated residual term model was analyzed and found to show good model fit. Further, since a correlated residual term model may be accepted, provided there should not be a systematic relationship in the residual or error terms of observed variable, *i.e.* items. Therefore, alpha value of the resultant scale after deleting each item was calculated to ensure no significant change in the alpha value after deleting each item. Results indicated almost unchanged alpha value with very minute variations (<.007) in the resultant scale with eight items. Overall alpha value of scale (.966) indicates very good scale reliability.

After determining the unidimensionality in the scale and removing the misfit item, scale with the remaining eight items was subjected to Rasch analysis. Rasch data-model fit was investigated through item fit statistics (MNSQ and z-value) and principal component analysis (PCA) of Rasch residuals to investigate the single latent trait explaining the variance in the observed responses. Item fit statistic revealed two of the items (item 7 and 8) were not fit with the Rasch model. PCA of Rasch residual, indicated sufficient unidimensionality in the data set. Although, based on the item fit statistic, the misfit items were removed from the scale. Scale was again analyzed further to ensure the data-model fit. Rasch analysis with the resultant scale of 6 items (after removing items 4, 8 and 9) found to be fitted with the Rasch model. All items found well fitted, as indicated through infit and outfit MNSQ and z-values. PCA of Rasch residual also showed sufficient unidimensionality in the data.

Rasch fitted model was again re-analyzed through CFA to compare the model fit and item loadings with the non-Rasch fitted model. Results revealed relatively better fit in the model (uncorrelated residual terms) as compare to non-

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Rasch fitted model, as indicated by chi-square/df, GFI, IFI, TLI, CFI and RMSEA value was also very close to marginally accepted fit value. Even though possibility was further explored by testing correlated residual term model obtained through Rasch analysis. Model fit of the correlated residual term model found to improve, as indicated through all the model fit indices taken into the consideration. Very slight variations (.008 to .01) in the scale reliability (alpha value) of Rasch fitted and non-Rasch fitted model was found. Thus, the Rasch analysis found to detect more misfitted item as compare to conventional CFA method.

Generally, the concept of recovery form illness has been primarily investigated in the field of psychiatric mental health. Most of the recovery related scales are multi-dimensional. For example, Recovery Assessment Scaleconsisted of 24 items and divided into five sub-scales (Giffort, Schmook, Woody, Vollendorf, & Gervain, 1995). Crisis Hostel Healing Scale developed by Dumont (2000) contains 40 items measuring 10 related domains. Personal Vision of Recovery Questionnaire (PVRQ) developed by Ensfield (1998) as a multi-dimension measure of recovery assesses belief about own recovery including social support, personal challenges, professional assistance, action and help-seeking.

Similarly, Mental Health Recovery Measures (Young, Ensing, & Bullock, 1999), and Recovery attitude Questionnaire (Steffen, Borkin, Krzton, Wishnick & Wilder, 1999) etc. are multidimensional measures. Recovery is a complex and insight full concept in understanding the response to a particular disease and its interaction with the treatment. Recovery can be explained in two ways. First, entirely based on the bio-medical model emphasizing on the reduction or complete absence of symptoms at physiological level.

Second, at the level of individual's attitude and motivation and his subjective appraisal in a positive and adaptive manner to recover from illness and discomfort. Recovery is widely explored in the realm of mental illnesses and has been established as multi-dimensional construct. But, almost it is an unexplored concept in the context of physical health problems. Further, the tools available to measure recovery from mental illness cannot be applied for measuring recovery from physical illness, as the nature, symptoms, etiology and process of psychological adaptation to these two class of illnesses are very different.

In physical health care services, quick, reliable and interpretable assessment of treatment effectiveness is required. Particularly, in case of chronic and severe illnesses, course and direction of treatment depends on the primary diagnosis and patients' response to the medication. However, apart from the physiological conditions and bio-medical treatments, patients' psychological state also determines the treatment effectiveness and therefore, needs to be taken into consideration while deciding about the treatment. In this context, subjective evaluation of recovery from the illness can be an important indicator for taking an early

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decision about the treatment methods and medication. Recovery from illness scale was constructed as a unidimensional measure to evaluate the subjective experience of improvement in physical health symptoms.

Another issue related with the meaningfulness in the assessment or recovery or in general to any psychometric measurement is to have a measurement tool based on interval scale. Interval scale has its inherited properties to provide meaningful measures (Wright & Linacre, 1989). Traditional analysis methods based on CTT are based on true score theory which makes use of only ordering without any proportional meaning. This issue is best dealt by Rasch approach of measurement construction. Rasch measurement transform the ordinal data into logit scale. Logit scale has constant linear interval meaning and can be used for meaningful and objective interpretation of the ordered category responses (Linacre, 2010). Findings of this study also indicated improvement in the psychometric properties after Rasch analysis, as two of the misfitted items could not be detected through CFA. By applying CFA to test the priori factor structure does not necessarily ensure expected explanation of the model with the data in hand. If this is the case, generally model is re-specified. A model specified of one sample or population does not necessarily hold the same structure for another sample. This leads to the issue of measurement invariance and fitting the model with the data (Linacre, 2003). However, on the contrary, Rasch model is a stringent model and data is required to fit with the assumptions of the model (Yen & Bond, 2011; Bond & Fox, 2007). Therefore, to establish construct validity as a unidimensional measure, Rasch measurement can be an appropriate way to test the proposed model. Since, Rasch item and person parameters are estimated separately and they are independent of each other, measurement invariance can be achieved and it is one of the essential assumptions of the Rasch measurement construction.

In conclusion, the present study aimed to investigate the psychometric properties of the recovery from illness scale in the mixed population suffering from various psychosomatic illnesses as a global and disease independent measure of treatment outcome. To investigate the factor structure and construct validity, CFA and Rasch analysis was applied. Rasch analysis indicated the unidimensionality in the data set, which was cross confirmed by CFA. Although, Rasch analysis (item fit MNSQ) resulted in relatively more precise assessment of item fit in the scale and was able to detect misfitted items which was not evident through CFA.

Further studies can be carried out by including patients suffering from certain specific disease and after controlling the disease specific factors IRT analysis can be carried out to confirm the factor structure of the scale.

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STRESS, SELF REGULATION AND PSYCHOLOGICAL WELLBEING AMONG YOUTH

Suneesh M.S., Hridya V.M.** and Sukanya. B. Menon****

ABSTRACT

In the current era youth is the strongest population from which there is an expectation of great productivity. So understanding the stress and how they regulate themselves in order to maintain well- being is very much in need. The present study is aimed at knowing the stress, self-regulation and psychological well-being among the college students. One hundred and forty four sample of college students were selected for the study. Perceived stress scale, self-regulation questionnaire, Psychological general well-being schedule were used for the assessing Perceived stress, Self-regulation and Psychological well-being respectively. Correlation and analysis of variance, Duncun's Multiple Range Test and Independent sample T test were conducted. Stress has a negative relationship with self-regulation and Psychological wellbeing and Psychological wellbeing has a positive association with self-regulation. Females are found to have high perceived stress and self-regulation compared to male counterparts. A significant difference is also found for perceived stress and Psychological wellbeing among youth who were grouped on the basis of low, intermediate and high self-regulation. Thus reduction in stress and enhanced self-regulatory activities provide a better psychological wellbeing among youth.

Key words: Stress, self-regulation, and well-being, youth

INTRODUCTION

Now a day's youth, mainly college students have to face variety of stressors, which may negatively affect their mental health. Stress can be explained as an

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negative cognitive and emotional state which is elicited when the person realizes that the demand placed on the person by the environment exceed the ability to cope (Lazarus and Folkman, 1984) and this stress is generally differentiated in to time stress, feeling of stress and physiological stress. Even if an optimal amount of stress is needed in a person's life (Selye, 1956) for a better performance, increased amount of stress leads to psychological distress and medical problems. Students with high level of stress had greater depressed affect compared to students with less stress (Robbins & Tanck 1992). It was suggested that life events has a greater influence on one's psychological status as it was considered that the major risk factor for depression is the life stressors (Mazure, 1998).

Increased work load, new responsibilities, changes in eating and sleeping habits are some of the sources of stress among college students (Ross, Niebling, Heckert, 1999). Experience of stress also causes a breakdown of self-regulation as it depletes the capacity of an individual to regulate the self. In a broad way self-regulation can be explained as any regulation of self by the self, that is the usage of psychological capacity in order to make certain psychological processes like motivational, behavioral or attention processes into desired direction (Vohs & Baumeister, 2004). In self-regulation, assignment of standards, that is, ideals, goals, or other conceptions of possible states and the constant monitoring of one's action are the most important aspects to be considered. When it is seen that the current state falls short of the standards, the person should have enough strength to override the responses they wish to control (Baumeister and Heatherton, 1996).

Considering the stress and self- regulation among youth, another important component which has an influencing role on youth is their well-being. Individuals who are more stressed or rushed scored less in happiness and life satisfaction which were the measure of subjective well-being (Robinson and Godbey 1998; Shields 1999). Well-being has a cognitive and affective component. Affective component signifies the balance between positive and negative emotional states and the cognitive component signifies the overall evaluation of the individual about the various domains in their life and the experience they encounter (Kafka & Kozma, 2001). Thebasic aspects of well-being are positive and negative affect and life satisfaction and thus the well-being is measured in terms of general satisfaction with life, self-perceived health, and satisfaction with services and resources offered (Beekman, Penninx, Deeg, de Beurs, Geerlings, & Tilburg, 2002). While controlling certain personality dispositions, global subjective well-being is relatively stable even if there is variation in emotional states, producing good or bad days depending upon the events happening on an individual's life (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000).

Study shows that self-regulatory processes are also linked to youth depression (Scott, Dearing, and Reynolds, 2008). The two major components

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of self-regulation such as self -efficacy appraisal, that is perceived self-efficacy to produce desired performances, and goal representation which is the mental representations of desired or undesired future states that helps an individual to move towards this imagined state are the major processes that are related to depression and wellbeing (Bandura, 1997).

Under the above background a study was conducted in youth to understand whether there is any relationship exists among perceived stress, self-regulation and psychological well-being. It aims to investigate whether stress and psychological wellbeing differs in people who have high, intermediate and low self-regulation. This study also aimed at knowing whether these aspects differ in male and female youth.

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METHOD

Participants

The sample studied were students of various colleges in Trissur district who are studying graduation or post-graduation. 144 college students were selected using random sampling and interviewed. The age of samples ranged between 18 and 22. Students who were physically challenged were excluded from the study.

Procedure

All the respondents who consented to participate in this study were briefed about the purpose of the study. Each respondent were then provided with three questionnaires (Perceived stress scale, Self- regulation Questionnaire and Psychological general wellbeing schedule) and persuaded to fill by their own.

Measures Used

1. **Perceived Stress Scale:** This 10 item perceived stress scale (PSS-10) developed by Cohen and Williamson (1988) is the most widely used psychological instrument for measuring the perception of stress. Items are designed to tap how unpredictable, uncontrollable and overloaded the respondents find their lives. The scale also includes a number of direct queries about current levels of experienced stress. This is a five point likert scale, in which zero indicates "Never" to four indicating "Very often". Internal reliability of this scale is 0.78. Questions are of a general nature and hence are relatively free of content specific to any sub population group.
2. **Psychological General Well-being Schedule:** The Psychological General Well-being Schedule developed for the National Centre for Health Statistics by Dupuyin 1984 assesses how the individual feels about his "inner personal state". The respondent was asked to indicate how he feels and how things have been going with him during the past

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one month .The scale has 22-items that are aggregated to provide scores in six sub scales such as Anxiety, Depressed mood, Positive well-being, Self-control, General health and Vitality. This is a six-point scale ranging from 0 to 5. Their test-retest reliability coefficient after three months range between 0.68 to 0.85 and with an internal consistency of 0.95. The correlational validity of the scale is very high and the values have been reported to range from 0.65 to 0.90.

3. **Self - Regulation Questionnaire:** The seven step model self-regulation questionnaire was developed by Miller and Brown in 1991 to measure the ability to develop, implement, and flexibly maintain planned behaviour in order to achieve one's goals. All 63 items are answered on a 5-point likert scale with the scale points-Strongly disagree (1), Disagree (2), Uncertain, Agree & Strongly .The items that are to be reverse-scaled are given (R). For reverse-scaled items 1 = 5, 2 = 4, 3 = 3, 4 = 2 and 5 = 1. The test retest reliability is 0.94. The SRQ also has shown strong convergent validity. If the total score is greater than or equal to 239, subject has high self-regulation capacity, if it is between 238 and 214, subject has intermediate self-regulation capacity, if it is less than 213 subject has low self-regulation capacity.

Statistical Analysis

Pearson correlation coefficient was carried out to identify the association among Perceived stress, self-regulation and Psychological wellbeing. Independent sample T test was done in order to understand whether there is any significant difference in Perceived stress, self-regulation and Psychological well-being among youth who were grouped on the basis of gender. The youth were again grouped into three based on scores of self-regulation. Likewise youth were grouped as those having low, intermediate and high self-regulation. Analysis of variance and Duncun's Multiple Range Test (DMRT) was carried out following Cohen (1988) for elucidating the level of Perceived stress and Psychological wellbeing among the three groups and to evaluate the impact of self-regulation on perceived stress and psychological wellbeing among youth. All statistical analysis was carried out using SPSS ver. 17.0 for Windows.

RESULTS

The correlation between Psychological wellbeing and Perceived stress among youth is shown in Table 1. There exists a negative correlation ($r = -0.651$, $p < 0.001$) between perceived stress and Psychological wellbeing. Another noteworthy observation of the study was a significant negative correlation between Perceived stress and sub variables of Psychological wellbeing such as anxiety($r = -0.517$, $P<0.001$), Depressed mood ($r = -0.576$, $P<0.001$) (increase in the score for anxiety and depressed mood indicates reduction inanxiety and depressed mood).

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Positive wellbeing (r = –0.542, P<0.001) Self-control (r = –0.493, P<0.001) General health (r = –0.411, P<0.001) and Vitality (r = –0.508, P<0.001). Thus when there is an increase in Perceived stress, a reasonable reduction is seen in Psychological wellbeing. Stress also produce an increment in anxiety, depressed mood and a lessening of self-control, general health, vitality and positive well-being.

Table 2 shows that self-regulation has a significant positive correlation (P<0.01) with sub variables of Psychological well-being like anxiety (r = 0.261), Depressed mood (r = 0.406**), Positive well-being (r = 0.261), Self-control (r = 0.323), General health (r = 0.398), Vitality (r = 0.342) and overall Psychological wellbeing (r = 0.419).

Self-regulation and Perceived stress (r = –0.321, P<0.01) are also negatively correlated which is depicted in Table 3. Thus it can be said that as there is an increase in self-regulation there is a decrease in perceived stress and an increase in psychological wellbeing

From table 4, it is evident that Perceived stress is greater (P < 0.05) in female (M = 17.32) youth compared to males (M = 14.96). Even if there is a greater amount of perceived stress in females, it can be also seen that self-regulation is more in females (M = 219.77) compared to males (M = 207.32), (P < 0.001).

Comparison of mean values for different degree of self-regulation among youth following one-way ANOVA is depicted in Table 5. Results indicate significant (P<0.001) variation in the levels of Perceived stress (F = 8.373) and Psychological wellbeing (F = 20.255) among youth who differed in the level of self-regulation. Results further confirm that with varying degree of self-regulation the resultant stress levels and Psychological wellbeing vary considerably. While comparing the mean values Perceived stress and Psychological well-being among the three self-regulation groups following DMRT, it was evident that youth who have low self-regulation (M = 19.0164) significantly differed from others in terms of Perceived stress and the youth who has lower self-regulation (M = 61.295) differed significantly from high (M = 70.9444) and intermediate group (M = 75.5455) on psychological wellbeing (Table 6). Hence it could reasonably be concluded that Perceived stress and Psychological wellbeing, are directly influenced by the level of self-regulation among youth.

DISCUSSION

Today youth is exposed to greater level of demands made by the society which inturn produce a considerable amount of stress in them. So it is necessary to understand the perceived stress, self-regulation and psychological well-being among these individuals. In the present study investigators tried to identify the relationship among these variables. Study also attempted to understand the influence of self-regulation on perceived stress and psychological well-being

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among youth and to know the difference in theses variable among youth who were grouped on the basis of gender.

From the results it is evident that perceived stress, self-regulation and psychological well-being are related. In the present findings perceived stress is negatively related to positive wellbeing, self-control, vitality, and general health and negatively related to anxiety and depression. Another study also shows consistent findings. High stress level also pave way for depressed affect among college students (Robbins, & Tanck, 1992; Mazure 1998) which further influence the psychological wellbeing. Happiness is one of the major concepts related to positive well-being. Omidi, Akbari, and Mahdian, (2011) emphasis that the proportion of students reporting high level of happiness, that is "very happy" also stated absence or few stress in normal situations and during test circumstances. In a study conducted among university students, perceived stress was associated to increased levels of depression and anxiety and decreased satisfaction with life (Asberg, 2000).

From the study of Glass, Singer, and Friedman (1969), it is evident that stress worsen an individual's ability to regulate one's self. The causal factors for the deterioration of self-regulation while under stress are enough to be explained. In the face of frustration it is difficult to concentrate on effortful task such as self-regulatory activities as it consumed so much of psychic energy which is in need for self-regulation. When the stressors are highly available in the memory and not seen in the immediate situation, person try to distract from the upsetting thoughts of it by indulging in compelling short term stimuli which unfortunately be the things the person try to control most of the time. There is high chance of failure when the person set high standards for them. This usually happens when goal setting takes place under the pressure of inflated egotism and emotional distress (Glass, Singer, and Friedman, 1969). Thus in the present study there found not only a negative relationship of stress and self-regulation but also found that low self-regulated individuals have significantly high perceived stress compared to high and intermediate group.

A direct positive relationship was also examined between self-regulation and psychological well-being. Rather than this relationship there found a direct influence of self-regulation on psychological wellbeing as it was found that for persons with low self-regulation the wellbeing is found to be less compared to people with intermediate and high self-regulation. The major components of self-regulation, such as self-efficacy and goal representation are having a direct association with depression and wellbeing. These two self-regulatory processes are found to have a reciprocal influence.

Depression also comes when individual has decreased sense of self efficacy which is needed for the performance of actions necessary for the realization of valued goals. And when people confused about their abilities they become less

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pertinent to invest personally in their goals (Bandura, 1997). Youth depression levels are either directly or indirectly influenced by the self-efficacy for academic performances and social interactions (Bandura, Pastorelli, Barbaranelli, and Caprara 1999) which inturn effect the wellbeing of the particular person. Thus Self-efficacy to control positive and negative affect is helps in high efficacy to manage one's academic development, to resist social pressures for antisocial activities, and to engage oneself with empathy in others' emotional experiences.

In the present study, while considering the gender difference in the perceived stress, female youth were found to have more perceived stress compared to male youth. The results are consistent with previous studies. When faced with identical stressors, females perceive their stress as being higher compared to males (Day & Livingstone, 2003). Hamaideh, (2012) also argues that female students reported a higher perception of stressors in frustrations, conflict, pressures and changes, as well as emotional reactions to stressors

Even if the perceived global stress is greater in female students, no gender difference is seen in overall life satisfaction (cognitive aspect of wellbeing), (Asberg, 2000) which is similar to the present findings that the psychological well-being among male and female youth are similar. Considering the self-regulation among girls and boys, it was found that more self-regulation is seen in girls. Results matches with the observation of Bouffard, Boisvert, Vezeau and Larouche (2011) that more self-regulatory strategies used in learning is by females compared to males.

CONCLUSION

The promotion of well-being and lessening of stress builds competent and resilient youth who are well equipped for facing the challenges in their life . It also helps the youth's transition into adulthood much more easier. Helping the youth to identify stressors, enhancing their self-efficacy, capacity for goal identification and self-esteem, promoting the utilization of informal sources of support, such as friends and family, are some of the methods of dealing with stress that is worth considering in terms of interventions with college students.

TABLE 1

Correlation between Psychological Wellbeing and Perceived Stress

	Anxiety	Depressed mood	Positive wellbeing	Self-control	General health	Vitality	Psychological wellbeing
Perceived stress	–.517**	–.576**	–.542**	–.493**	–.411**	–.508**	–.651**

**P<0.001

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TABLE 2

Correlation between Psychological Wellbeing and Self-regulation

	Anxiety	Depressed mood	Positive wellbeing	Self-control	General health	Vitality	Psychological wellbeing
Self-regulation	.261**	.406**	.261**	.323**	.398**	.342**	.419**

**P<0.01, ***P<0.001

TABLE 3

Correlation between Perceived Stress, Self-regulation

	Self-regulation
Perceived stress	–0.321**

**P<0.01

TABLE 4

Mean, Standard Deviation and t-value of Perceived Stress, Self- regulation, and Psychological Wellbeing among Youth Grouped on the Basis of Gender

	Male N=47		Female N= 98		T value
	Mean	SD	Mean	SD	
Perceived stress	14.96	6.75	17.32	6.29	2.013*
Self-regulation	207.32	18.29	219.77	19.13	3.778***
Psychological wellbeing	69.17	13.49	68.89	14.71	0.115

*P< 0.05, ***P<0.01

TABLE 5

Analysis of Variance for Perceived Stress and Psychological Well-being with High, Intermediate and Low Self-regulation

		Sum of Squares	df	Mean Square	F
Perceived stress	Between Groups	644.495	2	322.247	8.373***
	Within Groups	5465.367	142	38.489	
	Total	6109.862	144		
Psychological well being	Between Groups	6516.941	2	3258.471	20.255***
	Within Groups	22843.997	142	160.873	
	Total	29360.938	144		

*P< 0.05, **P<0.01, ***P<0.001

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TABLE 6

DMRT Analysis for Perceived Stress and Psychological well-being among different Self-regulation Group

	High self-regulation	Intermediate self-regulation	Low self-regulation
Perceived Stress	15.2222[a]	14.6364[a]	19.0164[b]
Psychological well being	70.9444[b]	75.5455[b]	61.2951[a]

Mean values with same letter as superscript are homogenous

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A STUDY OF CORRELATION BETWEEN LOCUS OF CONTROL AND ADHERENCE TO MEDICATION IN DIABETES TYPE 2 PATIENTS

Kadambari, Swati Singh** and Deepti Hooda****

ABSTRACT

The present study is an attempt to examine the role of locus of Control in adherence to medication in Type 2 Diabetes. The research sample consisted of 100 subjects (both males and females) with age range 25-60 years. All the subjects were administered on Multidimensional Health Locus of Control Scale and Medical Adherence Rating Scale. Correlation and Regression analysis revealed significant results.

Keywords: Diabetes Type 2, Adherence to Medication and Locus of Control.

INTRODUCTION

Diabetes Mellitus or simply Diabetes is a chronic condition where the body fails to utilize the ingested glucose properly. This could be due to lack of the hormone insulin or because the insulin that is available is not working effectively. There are mainly three type of Diabetes.

- Type 1 Diabetes Mellitus results from the body's failure to produce insulin, and currently requires the person to inject insulin or wear an insulin pump. This form was previously referred to as "insulin-dependent diabetes mellitus" (IDDM) or "juvenile diabetes".
- Type 2 Diabetes Mellitus results from insulin resistance, a condition in which cells fail to use insulin properly, sometimes combined with an absolute insulin deficiency. This form was previously referred to as non insulin-dependent diabetes mellitus (NIDDM) or "adult-onset diabetes".

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- The third main form, Gestational Diabetes, occurs when pregnant women without a previous diagnosis of diabetes develop a high blood glucose level. It may precede development of type 2 DM.

Along with a huge global burden, It is estimated to increase from 51 million to 58 million in 2030 in India. (Snehlata and Ramachandaran 2009). It caused 2.263 million disability adjusted life years in India during 2004 (ICMR 2006). The risk or complications with Diabetes can be reduced by adhering to medical advice and keeping Diabetes under control. Blood sugar should be regularly monitored so that any problems can be detected and treated properly.

Treatment involves both diet and exercise along with oral medications to control blood sugar level. In all Type 1 Diabetics and severely uncontrolled Type 2 Diabetics a daily dose of insulin through injections may be needed. The success and failure, or even the control over diseased condition depends on the extent to which a patient "Adheres to Medication". ADHERENCE has been defined to the degree to which patient's voluntary behaviour corresponds with the clinical recommendations of health care providers. It suggests that patients are self sufficient individuals who assume an active and voluntary role in defining and achieve goals for their medical treatment.

So Medication adherence usually refers to whether patients take their medications as prescribed as well as whether they continue to take a prescribed medication. Results reported by Arunima Gupta, Punam Midha and Sonia Malik (2012) found maximum adherence to medication in Diabetic Patients (80%) and least in Arthritis (57.90%). Various factors influence person's adherence to medication such as genetics, environment, demographic variables, socioeconomic status and other interpersonal and intrapersonal factors. As per the study, role of Locus of Control in Adherence to Medication is studied.

Locus of Control, the generalized belief that the occurrence of outcomes is under the control of oneself or outside the self controlling forces and also included control of one's outcome by chance and /or other powerful people. Personal control beliefs, also referred to as locus of control and personal mastery beliefs, reflect individuals' beliefs regarding the extent to which they are able to control or influence outcomes. A wide variety of theorists have emphasized the importance of perceptions of personal control and suggested that the desire to control the world around us (*i.e.*, the desire for behaviour-event contingency or personal control) is a fundamental characteristic of human beings (Schultz et al, 1994; see also Haidt & Rodin, 1995; Rothbaum, Weisz and Snyder, 1982 for reviews). Reflecting these varied theoretical perspectives (as well as the extensive research interest in the concept of perceived control), the literature exhibits varying conceptualizations of "perceived control".

Most well known is the concept of "locus of control" which derived originally from Rotter's social learning theory (Rotter, 1966) and which focuses on "beliefs that individuals hold regarding relationships between actions and

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outcomes" (Lefcourt, 1991). The earliest instrument developed to measure locus of control beliefs, the Rotter I-E Scale, focused largely on the distinction between beliefs in internal versus external loci of control. Later instruments, elaborated by Rotter, Lefcourt and others, included more specific assessments of beliefs about personal "internal" control contingencies but also control contingencies manifested by "powerful others" and (similar to the original "external" formulation) perceptions of non-contingency (*i.e.* "chance") (for review see Lefcourt, 1991). Existing literature on control beliefs in relation to both SES and health largely reflects the "internal vs. external" conceptualization with assessment of individuals in terms of the extent to which they see "control" as residing primarily in themselves versus elsewhere (*i.e.*, in others or chance). (Seeman, 1999).

Findings suggest that interventions aimed at improving internal locus of control may improve adherence to diabetic regimen but different diabetic patients have different attribution styles and interventional programmes to enhance diabetic self care will be more successful if patients locus of control is addressed. According to Rodin, an individual with high perceived control may have better health because he or she is more likely to take health enhancing action.

METHOD

Sample

A purposive sample of 100 adults (aged 25-60 years) was selected with following inclusion and exclusion criteria.

Inclusion Criteria

- Respondents in age range 25-60 were selected.
- Minimum education level was 12th.
- Respondents suffering from diabetes diagnosed by a medical practitioner were selected.
- The minimum duration of patient's disease was at least 2 years and maximum of 10 years.

Exclusion Criteria

- Respondents suffering from an acute disease during preceding one month were not included in the sample.
- Patients with extreme severity of disease or secondary complication were excluded.
- Patients with co-morbid disorders were excluded.

Tools

Following tools were used in the present study.

- *Medical Adherence Rating Scale (Thompson, Kulkarni, & Sergejew 2000)*: It consists of 10 items with yes or no response. . The Medication

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Adherence Rating Scale (MARS) is a questionnaire that tests a patient's compliance with medication. Patient's that respond "NO" to questions 1-6 and 9-10 and "YES" to questions 7-8 are compliant.

- *Multidimensional Health Locus of Control Scale (form c):* This form is designed by Ken Wallston et al and is condition specific. This form has 18 items. Each item is a belief statement about medical condition with which one may agree or disagree. Beside each statement is a scale which ranges from strongly disagree (1) to strongly agree (6). For each item subject have to circle the number that represents the extent to which you agree or disagree with that statement. The more one agrees with a statement, the higher will be the number one circles. The more one disagrees with a statement; the lower will be the number one circles. Please make sure that you answer. This is a measure of personal beliefs; obviously, there are no right or wrong answers

Procedure

Purposive sample of persons with diabetes was selected. First of all the subjects were introduced to the study. Good rapport was established. After they felt comfortable and became familiar to the situation, they were instructed as to how to respond on the scales of 'Locus of Control' and Medical Adherence. Each subject was administered 2 scales which included scale for Locus of Control and Adherence to Medication Scale. Subjects were also made to know the purpose their participation will serve. So all the subjects were assessed on above mentioned tools to see role of Locus of Control in adherence to medication in people with Type 2 Diabetes using correlation and regression statistical techniques.

RESULTS AND DISCUSSION

The present study aimed to investigate the relationship between Locus of Control and Adherence to Medication. Multidimensional Health Locus of Control Scale and Medical Adherence Rating Scale were administered on a sample of 100 Diabetes Type 2 patients. Correlation was computed to study the relationship between Locus of Control and Adherence to Medication. Further stepwise regression was applied to estimate the extent of variance in Medical Adherence with Locus of Control scores. Out of four types of Locus of Control taken *i.e.* 'Internal', 'Chance', 'Doctor' and 'Other Powerful', Medical Adherence was found to be significantly correlated with Internal Locus of Control and Powerful Others. This means that higher is the Internal Locus of Control, higher will be the Medication Adherence *i.e.* when the person feels himself responsible for his good health, better is the chances that he will adhere to Medication. Significant correlation with Powerful Others (such as health agencies) reveals that individual is more likely to rely on the medical professionals to take care of their health.

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TABLE 1

Coefficient of Correlation between Locus of Control and Adherence to Medication Rating Scale

Locus of Control	Adherence to Medication
1. Internal	.505**
2. Chance	.073
3. Doctor	.008
4. Others Powerful	.221*

*p<.05 **p<.01

From table 1, it can be seen that Internal Locus of Control with correlation coefficient .505 (p<.01) has significant as well as positive correlation with Adherence to Medication *i.e.* increase in Internal Locus of Control will be accompanied by increase in Medical Adherence or better Adherence will be there. The finding in this study is in line with those of Oviageli Omeje and Chinenye Nebo (2011) who concluded that internally oriented patients adhered more to their treatment regimen than externally oriented patients.

The correlation of Medication Adherence to Powerful Others is .221(p<.05). This means that Medical Adherence and Powerful others (sub-factor of Locus of Control) correlate significantly. Positive correlation reveals that higher the score on powerful other, more will be Medication Adherence. Higher a person relies on powerful others (health agencies, medical professionals), more will be Medication Adherence. This also indicates that health agencies and medical professionals play a significant role in convincing people to adhere to medication. Elizabeth A. Schlenk, R.N., and Laura K. Hart, R.N. (1984) found a statistically significant relationship between Powerful Other Health Locus of Control and Medication Adherence. Chance and Doctor Support of Locus of Control do not correlate significantly with Adherence to Medication.

In order to examine the extent to which various sub-factors of Locus of Control predict the criterion variable *i.e.* Medication Adherence, stepwise multiple regression was employed to identify the factors that account for maximum proportion of variance in Medication Adherence.

TABLE 2

Regression Table

Predictor	R	R Square	B	F	Significance level
Internal LOC	.505	.255	.186	33.619	.01

Regression analysis on Medical Adherence Rating scores indicates that only one variable *i.e.* Internal Locus of Control is predictor of Medication Adherence. Multiple R is equal to .505 and R square equal to .255 (F = 33.619, P < .01).

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This shows that Internal Locus of Control accounts for 25.5% of variance in Medication Adherence. Annette L. Stanton (1987) found that greater expectancy of Internal control over health, greater knowledge of treatment regimen and strong social support were significant determinants of adherence.

CONCLUSION

Adherence to Medication is a very important factor in medicine efficiency. It is very important aspect of behaviour that promotes good health and promotes longevity. It also helps to assess accurately the degree of drug efficiency. Since, Diabetes is a chronic disease where management of diseased condition is the primary aim, the importance of Adherence to Medication become more significant. In such a situation, giving due consideration to the factors affecting Medication Adherence becomes more critical. In summary because research has shown the importance of adherence to medication in healthcare and also present study shows the influence of Locus of Control on it, healthcare providers should take this and other such variables into consideration when planning and implementing health policies in order to achieve desired objectives.

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RORSCHACH PROTOCOLS OF SUBJECTIVE EXPERIENCE OF WELL BEING IN HIGH CREATIVES

B.S. Sandhu, and Tarika Sandhu***

INTRODUCTION

Creativity and its domains defy precise definition since they encompass every sense- sight, smell, hearing, feeling, taste and even the extrasensory. Much of it remains unseen, nonverbal and unconscious. The phenomenon of creativity comprises of many nuances and interpretations with the extreme empiricists trying to throw a net of analytical propositions to grasp it (Wallach & kogan, 1965 & Guilford, 1968) and the metaphorically oriented theories ever widening its scope to highlight its relevance in every aspect of human functioning (Csikzentmihalyi, 1998 & Sawyer, 2006). Even decades of research on the relationship between intellectual functioning and creativity have been unable to unveil the exact nature of this enigmatic concept which sometimes appears to be a subset of IQ, sometimes overlapping and at other times just disjoint. (Sternberg, Kaufman, and Pertz, 2002). Interestingly Le francois (1982) had remarked that just as very low intelligence was stupidity, similarly very low creativity was ordinariness.

Attempts were made by many investigators such as Crutchfield (1962), Moustaks (1967) by contrasting creativity with conformity in order to grasp its essence. Apart from the defining standpoint of creativity, its expanse covers attitudes, underlying subtle processes and achievements (Barron & Harrington, 1981). Mooney (1963) suggested four approaches to creativity viz. environment, product, process, and person. The creative process and creative product have typically been seen as the criteria of creativity. The creative person has been the

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main basis of prediction in the equation with environment used variously as a modifier in the equation as the stimulus situation through which inner processes are activated (Taylor, 1988). Recently Runco (2007) added 'potential' after Simonton (1990) who had added 'persuasion' to extend the four 'p' framework. Simonton (1990) described creativity as 'persuasive' by considering creative outputs to have the capacity to alter existing notions lending a social perspective to creativity. The potential differentiation as proclaimed by Runco (2007) exists between creative potential and creative performances with the former appreciating and giving significance to yet unfulfilled possibilities and subjective processes. To sum up Plucker et al, 2004). Comprehensively combined the whole gamut of opinions on creativity by describing it as "The interaction among aptitude, process, and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social context".

Beyond speculative definitions making estimations about the nature of creativity another debate persisted alongside related to its domain specificity or generality. (*e.g.*, Baer, 1993; Sternberg, Grigorenko,& Singer, 2004). Creativity within domains expresses itself varyingly.

The genesis and mechanisms of creativity within the sciences and arts was brought to the fore when Stanley Stark (1969) distinguished two relatively independent contexts of creativity. He proposed 'novelty' which was akin to problem solving capacities and 'meaning' type of creativity which connoted aesthetic sensibilities. Dunber (1995) concluded that creative expressions of the scientist is never an accidental and sudden insight, rather it's a long drawn effort and a careful reasoning towards the final solution.

The science streams *i.e.*, physical, biological, chemical, engineering show a common overlap whereas literary, philosophical, musical and sculptural creativity show commonalities markedly differentiated from the previous group. Scientific creativity always involves an addition to previous knowledge, either an improved theory or a new object or procedure, whereas artistic creativity may give new representation of life (*e.g.* painting, poem) or feeling, but not usually progression from previous representations (Vernon, 1989).

Creative productivity has been understood as a particular type of cognition (a particular method of combining mental elements) with a certain configuration of personality traits especially behavioral traits (that manifest in performance) namely aptitude, interest, attitudes and temperaments A creative pattern becomes manifested in creative behaviour which includes activities such as inventing, designing, contriving, composing and planning. Dellas and Gaier (1970) constructed the picture of a truly creative personality by attributing to it traits such as: Independence in attitude and social behaviour, dominance, introversion, openness to stimuli, intuitiveness, flexibility, radicalism and rejection of external constraints.

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A large number of studies have also shown positive association between creativity and major affective disorders and other forms of psychopathology (Edel, 1975; Goertzel & Goertzel, 1978; Karlsson, 1978; Phillips, 1982; Jamison, 1988; Gibson, 1989; Weisberg 2006; Batey & Furnham 2008). Alongside a strong evidence is available for the positive association of creativity with indices of mental health (Cattell, & Butcher, 1967; Stein, 1971; Maslow, 1973; Torrance, 1989; Renzuilli, 2005).

Equivocal findings regarding emotional stability, ego-strength, and anxiety do suggest that people create under varied and differing conditions-internal as well as external. It is highly plausible then that some personal factors might show distinct manifestations across different domains of creative activity such as the arts and sciences. One such factor which deserves attention is the creator's subjective experience of well being. Though intuitively even a layman knows what the term 'well being' implies yet questions are raised about precise empirical conceptualizations in the scientific arena. Broadly subjective well being relates to positive mental health.

The parameters for assessment of mental health are numerous ranging from self esteem to resilience. According to Emerson (1985) well being is the satisfaction of an individual's goals and needs through the actualization of their abilities or life style. Hence it is not only about extra-psychic success rather it also includes intra-psychic health. It is an experience of functioning effectively and happily as a person in one's expected role. It is a condition of the whole personality (not merely condition of the mind). It is an outgrowth of one's total life and is promoted or hindered by day-by-day experiences, not only by major crises being a matter of degree.

High creatives in any domain of creative production too would be experiencing various degrees of well being as would any other individual falling in a normally distributed population. The behavioral repertoire of an individual in varied situations is under the influence of his creative assimilations and consequent execution of decisions thus formed. The objective of the present study was to test how subjective experiences of well being of the creative individuals in the fields of science and literature would influence their productions/end products/ accomplishments.

METHODOLOGY

Sample for the study comprised of 20 creative young male subjects (10 from sciences and literary fields each) with age ranging from 25-32 yrs. Creative subjects for the study were selected on the basis of subjective ratings of their supervisors/seniors and peers for their creativeness. The criteria used for inclusion of creative subjects in the sample for the two domains was number of publications *i.e.*, 5 and more research papers in science and 10 poems/short stories in

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literature. An empirical validation of creativity was performed by assessment of scores on Torrance test of creative thinking. The obtained scores on combined indices of verbal and figural Fluency (60-70), Flexibility (39-47), Originality (45-55) and Figural Elaboration (65-76) were higher as compared to norms of their age groups .This indicated that subjects selected on the basis of supervisors ratings were appropriate selections even with actual psychometric indices of the criteria. All the subjects were required to give detailed report of their achievements. Qualitative evaluation of their productions was done by experts from their respective fields. Ratings of subjective wellbeing were based on scores of subjects on the PGI Well being measure by Verma & Verma (1988). 5 subjects with high well being (having scores of 17 & above) and 5 subjects with low well being (having scores of 12 & below) were taken for the study within the high creative group. Rorschach Ink Blot test was administered to 5 high and 5 low well being subjects (amongst the high creativity group) in sciences and arts. Inferences were drawn on the basis of analysis of Rorschach responses for indices of Form, Colour, Movement and Texture and qualitative information obtained for production by the creative persons.

RESULTS

Analysis of Rorschach responses of subjects in four groups suggested that indices of Wholes (W), Form (F), Human Movement (M), and Color (FC) response along with total number of responses (R) elicited by subjects were useful for identifying differences in the high creatives who differed on subjective experience of well being within sciences and arts.

Analysis of Rorschach responses of high creatives, high and low on well across sciences and literary arts: Subjects with high sense of well being in both science and literature tended to give greater number of responses (R) to 10 inkblots *i.e.*, 40-50. These subjects also yielded high scores on Form (F) indices. This implies that subjects with high subjective experience of well being had an uninhibited impulse to produce more and more responses. This tendency hints at a general capacity for productivity of individuals from both sciences and literature. Their score on Pure Form responses 'F' ranged from 18-30.

Higher 'F' responses were suggestive of predominance of reality oriented rationality and emotion free modes of problem solving and decision making styles. Another noteworthy marker of this group had been their range of 'Form Colour' response (FC, 3-10) and 'Colour Form' (CF, 0-2) responses. While the 'FC' scores were indicative of better internal controls, near absence of 'CF' in the whole group revealed that individuals in the category of 'high subjective well being and high creativity' were rarely swayed by emotions even though belonging to different domains of creative production .

High Creatives mainly from the area of literature with low subjective wellbeing gave relatively lesser number of total responses (R,22-35) and less pure form

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responses (F,14-22) as compared to subjects who were high on subjective well being. Though these scores were comparatively on the lower side but certainly not indicative of a stunted capacity for productive creativity or loss of touch of reality. Primacy of Colour as a dominant in their responses hints at another significant feature of psychic functioning of these.. Number of Colour dominated Form responses (CF,5-8) almost matches with their Form Colour responses (FC,7-10) responses. This ratio seems to hint at the possibility of oscillation between states of better internal controls on one hand and dominance of affect on the other .Human movement responses hint at higher emotional sensitivity to internal and external cues.

Interestingly use of entire blot *i.e.*, Wholes in their percepts of Location, (W,10-13 & 9-12) and Human Movement responses (M,8-10 & 7-10) do not show any marked differences between groups of subjects with high and low subjective well being respectively. Observation of complex organizational activity in almost all the Whole percept responses of both groups reveals their likelihood to remain engaged in creative activity, though in different styles and contexts.

The overall patterns of sores on all indices of Rorschach for both the groups reveals that subjects with high sense of subjective well being fall in the Rorschach's creative category of introversives while creative subjects with low subjective well being could be called ambiverts. The marked difference between these two categories in the Rorschach systems is that introversives are more apt to utilize internal resources in a problem focused and reality oriented manner where as ambiverts tended to oscillate between inwardly and outwardly orientations in the utilization of internal resources.

Qualitative analysis of creative production of subjects each in the sciences and literary arts: Evaluation of research activities and paper publications of subjects in science was done by their research supervisors. The reports invariably suggested that subjects with high well being were more innovative, designed 'their investigations after thorough scrutiny of their work, were more skeptical, critical and open to changes and challenges'. Subjects with low well being were relatively less productive with their emphasis on replication, verification and extension of work suggested by supervisors only.

In the literary domain theme based content analysis of poems and short stories revealed that the main concerns of subjects with ''high well being' were related to social evils, inequality, political ideology on one hand and idealistic, perfection oriented with message of universal brotherhood on the other. Subjects with 'low well being' depicted a pessimistic world view in their writings. Plots of their short stories were complex, depicting conflicts, contradictions and suffering ultimately resulting in irresolvable conflict but acceptance of circumstances. All these characteristics of nature of writing presumably provides a rich source of catharsis to the writer. Foregeard (2008) analysed linguistic patterns of some eminent writers with psychiatric problems especially unipolar,

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bipolar and those who had none of these and he too found a marked difference in these groups, *i.e.*, writers with bipolar and unipolar disorders used more death related words with pessimistic orientations as compared to the mentally healthy group.

In the context of the present study Rorschach protocols of creative individuals in both the fields viz sciences and literature reveal that at the same level of creativity, variations in degrees of subjective experience of well being manifests in the direction and quality of creative production. Contrary to belief, Rorschach responses did not vary for the 'high creativ, high SE of well being' subjects in arts and sciences as had been postulated earlier. The probable rationale is that though the basis of creativity may differ in the arts and sciences, yet the personality traits sustaining it generalizes across domains. These results are strong clues to the problem of how and why creative people tend to choose specific issues to be addressed by their own selves in a life span of creative outputs .

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BOOK REVIEW

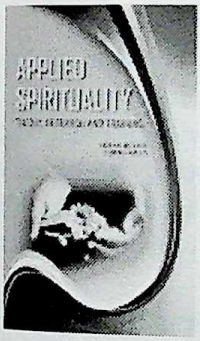
APPLIED SPIRITUALITY

Theory, Research and Practice

Authored by: Akbar Husain and Sabira Khan

Global Vision Publishing House, New Delhi, 2013

Rs. 1200/, ISBN: 978-81-8220-632-8



The concept of spirituality is inclusive and affects everybody. Spirituality is concerned with people finding meaning and purpose in their lives, as well as the sense of belonging, of community. Inner-peace, well being and fulfillment are often terms associated with spirituality, as the concept focuses on listening to one's 'inner-self' and one's true desires. The book 'Applied Spirituality: Theory, Research and Practice' by Akbar Husain and Sabira Khan focuses on the effective application of spirituality in all walks of life. The book provides a comprehensive picture of spiritual practices and their role in promoting the well being of individuals.

The first chapter acts as an introduction that defines the meaning and importance of spirituality. The chapter gives the message that one can unite the entire community or world with the expression of truth that can be achieved by means of spirituality. The positive values cultivated by spirituality not only enhance the mental health but also enhance the quality of life of individuals.

In second chapter the authors highlight the distinctive features of spirituality and religion. The chapter emphasizes that these two i.e. spirituality and religion are two separate systems and not interchangeable terms.

The next chapter focuses on spiritual well-being, which is an integral part of mental, emotional and physical health. Spiritual well-being promotes the personal values, healthy relationships, meaning of life and purpose, forgiveness and self esteem of individuals and leads towards a complete wellness. The

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authors have emphasized that the components of spiritual well-being should be a part of medical treatment for enhancing the quality of life of patients.

The fourth chapter deals with 'our ultimate intelligence' i.e. spiritual intelligence, which is an important attribute of an individual to achieve success in his life. Spiritual intelligence is the set of abilities that individuals use to apply, manifest and embody spiritual resources, values and qualities in ways that enhance their daily functioning and well-being. The impact of spiritual intelligence plays a very important role to solve the problems faced especially by adolescents.

The next chapter reflects the importance of the application of spiritual practices in counseling. Counselors can make use of the spiritual beliefs of their clients to help them to explore and resolve their problems. This chapter stresses that spiritual values need to be addressed in counseling sessions as well as in the training programs of counselors. In later chapters, the authors speak about the practical applications of spirituality in such diverse areas as healing practices, sports, work place, business and ethics. Inclusion and application of spiritual practices in all these fields will provide meaning and purpose to life; this also builds self confidence and boosts self esteem. Self esteem is not only seen as a basic feature of mental health but also as a protective factor that contributes to better health and positive well being.

The authors also describe the techniques of yoga therapy and their physical, psychological and spiritual benefits. Yoga practices helps in achieving self realization. It improves the physical and mental health of individuals. Well-being is probably one of the most important aspects of human beings and state of well-being can be attained in terms of healthy body with healthy mind. The professionals should include yoga practices in the treatment of psychiatric patients especially for cases of depression and children with ADHD.

The final chapter enumerates the various aspects and benefits of spiritual training programs. These programs are not only beneficial for clients but helpful in enhancing the spiritual practices and professional competencies of professionals. The main objective of these training programs is to enhance one's awareness, knowledge and skills to deal effectively with one's environment.

Practicing spirituality expands and deepens the field of perception little by little, to the point that one can find answers to one's own questions. Spirituality concentrates on exploring our inner wants and desires and can totally transform some people's life, offering them a sense of contentment, well-being and meaning. This book is a significant contribution for the students, researchers, academicians and practitioners working in the field of spirituality. It is a comprehensive master piece, largely exhaustive in scope and application.

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International Peer Reviewed & Refereed Journal

ISSN. 0973-5755
Vol. 9, No. 2, March, 2015

Journal of Indian Health Psychology

GLOBAL VISION PUBLISHING HOUSE, NEW DELHI

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JIHP Journal of Indian Health Psychology
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Journal of Indian Health Psychology (JIHP) is a biannual refereed Journal devoted to interdisciplinary research with the objective of furthering an understanding of scientific relationship between behavioural principles on one hand and health issues on the other. The Journal provides a forum to integrate the theoretical, empirical and application based knowledge in this area. The distinctive feature of the journal is to include a special section of the articles based on Indian perspectives of health psychology and behaviour. Dissemination of the knowledge among the professionals and upcoming researchers will go a long way in benefitting the masses at large. Research carried out at individual, group and community level are welcome.

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FORGIVENESS AND WELLBEING: AN ACROSS GENERATION STUDY

Pooja and Deepti Hooda***

ABSTRACT

Subjective well-being is a scientific term for what ordinary people experience as happiness. People vary in their experience of subjective well-being. The present study attempts to explore the relationship between Forgiveness and Wellbeing in/across three generations. A sample of 100 adolescents was selected from secondary and senior secondary schools of rural and urban area. Respondents of the next two generations of each student (i. e. parents (mother/ father and grandmother/ grandfather) were taken. Therefore, the total sample was 300. Tools used for assessment of Subjective Well Being were Life satisfaction scale; and Positive affectivity and negative affectivity schedule. And the tools for the assessment of Forgiveness were Heartland Forgiveness scale and Transgression – Related Interpersonal motivation scale. To fulfill the purpose of the present investigation all the measures of Forgiveness and well being were administered on all the subjects personally or in small groups, after obtaining informed consent and establishing the rapport with the subjects. The data was analyzed using appropriate analysis and discussed in detail in the paper. Across generation differences in .Forgiveness and Wellbeing were analyzed by using ANOVA. For analyzing the relationship between the two variables correlational statistics was used. Results have been discussed in light of across generation variations.

Keywords: Forgiveness, Subjective wellbeing, Positive and Negative Affect, Generation

INTRODUCTION

Subjective Wellbeing (SWB) encompasses both cognitive and affective component. The cognitive component refers to subjective judgment of life

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satisfaction. The affective component of SWB assesses the frequency of positive and negative emotions. Thus, SWB is subjective evaluation of one's life, presence of positive emotions and absence of negative emotions. People vary in their experience of subjective well-being. Some individuals experience high level of subjective wellbeing despite their diverse living situations. However, some people may experience low level of subjective wellbeing despite having all worldly advantages. Researchers have identified a number of factors that are associated with enduring wellbeing like age, gender, income, employment status, geographical location, personality, intelligence, life events and one important factor is supportive relationships. And for cordial relationships one has to let go of emotionally backed judgments, grievances, attack thoughts and beliefs toward themselves and others i.e Forgiveness. The apparent link of forgiveness to well-being may therefore be due to the fact that forgiveness helps people maintain supportive relationships. Karremans, Lange, Ouwerkerk, and Kluwer (2003) suggested that forgiveness obtains its association with psychological well-being precisely because forgiveness helps people maintain and restore close relationships.

Forgiveness has existed since the dawn of humankind (Griswold, 2007; Mc Cullough, 2008). There are indicators of forgiveness among our evolutionary ancestors (DeWaal, 2000; DeWaal & Pokorny, 2005; Mc Cullough, 2008), suggesting a history of forgiveness that transcends not only culture and time but species as well. Forgiveness is a 'prosocial change towards a perceived transgressor' (Mc Cullough, Pargament and Thoresen, 2000). A number of researchers have proposed different conceptualizations for the forgiveness, they generally agreed that "when people forgive, their responses toward people who have offended or injured them become less negative and more positive–or prosocial–over time" (McCullough & Witvliet, 2002). Worthington & Scherer (2004) talked about two aspects of forgiveness that is decisional and emotional aspects. Emotional forgiveness deals with replacing negative, unforgiving emotions with positive and other-oriented emotions while decisional forgiveness is a benevolent change in the way a person acts towards their offender. McCullough, Rachal, Sandage, Worthington, Brown and Hight (1998) gave two motivational elements underlying forgiveness: avoidance and revenge. In a state of emotional hurt, an individual might try to distance him/her self physically or psychologically from the offender (avoidance) or seek revenge or cause harm to the offender (revenge). Forgiveness occurs, if individual no longer perceives the need to avoid or seek revenge. According to McCullough, Fincham, and Tsang (2003) forgiveness is gradual and can change at different stages.

Empirical studies have shown positive associations between the dispositional tendency to forgive others and various indicators of subjective well-being. Individuals high on forgiveness report more positive affect, greater life satisfaction, optimism, happiness, environmental mastery, and selfacceptance (Hill & Allemand,

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2010, 2011; Krause & Ellison, 2003; Maltby, Day, & Barber, 2005; Sastre, Vinsonneau, Neto, & Mullet, 2003). Researchers have also suggested that Forgiveness is positively associated with psychological well being (Brown, 2003; Fredmen & enright, 1996; Karremans, Venlangs, Ouwerkerk & Kluwer, 2003; Poloma &Gallups, 1991). Subjective well-being was found to be positively correlated with the forgiveness among college students (Huang Hua-jin 2009).

In past few years, due to technological advancements and globalization our society has undergone a visible and significant change, in this process our value and belief systems have also changed. Hanke and Fischer (2013) argued that practicing forgiveness requires a safe environment where there are no worries about survival due to conflicts. Further, they found that increased socioeconomic development in associated with more interpersonal forgiveness and post-materialism (newer generation) is positively linked to interpersonal forgiveness.

Objective

The present study attempts to explore the relationship between Forgiveness and Wellbeing in/across three generations.

METHOD

Sample

A sample of 100 adolescents (Group 1) was selected from secondary and senior secondary schools of rural and urban area. Respondents of the next two generations of each adolescent, parents i.e mother/ father (Group 2) and grandmother/ grandfather (Group 3) were taken. Therefore, the total sample was 300 respondents.

Tools

Following tools were used

For Assessment of Forgiveness

The Heartland Forgiveness Scale: To assess Forgiveness, Heartland Forgiveness scale developed by Thompson & Synder (2005) was used. It measures dispositional forgiveness (*i.e.*, the general tendency to be forgiving). It is an 18 items self-report measure of forgiveness. It consists of three subscales, with six items on each scale, measuring forgiveness of self, forgiveness of others, and forgiveness of situations. Items are rated on a seven point likert scale (1=almost always false of me, 7= almost always true of me). Satisfactory internal consistency reliabilities are reported with alphas between .84 and .87 for the scale and between .71 and .83 for the subscales. Test- retest reliabilities were .83. There is no fixed time limit for the test. But ordinarily the pupils takes 3-5 minutes time in completing the test.

The Transgression – Related Interpersonal Motivation Scale (TRIM): TRIM Inventory (McCullough et al., 1998) was used to assess two negative motivational

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states that underlie interpersonal forgiving. The TRIM consists of 12 items, revenge subscale consists of five items that assess respondents' desire to seek revenge against someone who committed a specific transgression against them. The avoidance subscale consists of seven items that assess respondents' desire to maintain relational distance from their transgressor. Items are rated on a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Internal consistency reliabilities (alpha) for both subscales range from .85 to .93 and test-retest reliabilities have been in the range of .44 to .65 (McCullough et al.,1998). Construct validity is supported through confirmatory factor analyses indicating that the measurement model is a good fit (Comparative Fit Index > .90) to the relationships among the 12 items (McCullough et al.,1998). These subscales also manifest convergent and discriminant validity through (a) moderate correlations with measures of offense-specific rumination, empathy, and relation al closeness and (b) low correlations with measures of social desirability (McCullough et al., 1998).

For Assessment of Subjective Well Being

Satisfaction with Life scale (SWL): SWL scale developed by Diener, Emmons, Larsen, & Griffin (1985) was used to measure life satisfaction that takes into accounts overall judgement of one's life. Individuals indicate their degree of agreement or disagreement on a 7-point Likert-type scale. The 5 items of the SWLS were selected from a pool of 48 items based on factor analyses. Scores range from 5 to 35 with higher scores indicating greater life satisfaction. Diener et al. (1985) reported a 2-month test-retest correlation coefficient of .82 and an alpha coefficient of .87 for a sample of 176 undergraduates from the University of Illinois. The SWLS has been found to be positively associated at statistically significant levels with other measures of subjective well-being and negatively associated with measures of psychopathology (Diener et al.,1985).

Positive Affectivity and Negative Affectivity Schedule (PANAS): PANAS (Watson, Clark & Tellegen, 1988) was used to assess positive and negative affect. The 20-item Positive and Negative Affect Schedule (PANAS), comprises of two mood scales, one measuring positive affect and the other measuring negative affect. Each item is rated on a 5-point scale ranging from 1 = very slightly or not at all to 5 = extremely to indicate the extent to which the respondent has felt this way in the indicated time frame. The authors have used the scale to measure affect at this moment, today, the past few days, the past week, the past few weeks, the past year, and generally (on average).Watson et al. (1988) reported Cronbach's alpha coefficients for the various time reference periods ranging from .86 to .90 for the Positive Affect scale and .84 to .87 for the Negative Affect scale. For the general period, alpha was .88 for Positive Affect and .87 for Negative Affect. Test-retest correlations for an 8-week period ranged from .47

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to .68 for Positive Affect, .39 to .71 for Negative. The scale authors also reported evidence for the validity of the PANAS: Measures of general distress and dysfunction, depression, and state anxiety are more highly correlated with the Negative Affect scale (positive correlations) than the Positive Affect scale (negative correlations).

Procedure

To fulfill the purpose of the present investigation, all the measures of Forgiveness and well being were administered on all the subjects personally or in small groups, after obtaining informed consent and establishing the rapport with the subjects. The scoring was done as per manual. After this, the responses would be subjected to statistical analysis using SPSS software.

RESULTS AND DISCUSSION

The problem of the present study is to find out the relationship between Forgiveness and Wellbeing in/across three generations. In present investigation a co relational design was applied. A purposive sample of 300 respondents was selected from rural/ urban areas (150 each).One way AVONA was applied to study across generation differences in Forgiveness.

Table 1: Mean Scores of the generation groups on Forgiveness and F- value

Forgiveness Variables	*Generation Group*	*Mean Scores*	*F*
Forgiveness (self)	1	18.26	.384
	2	18.67	
	3	18.46	
Forgiveness (Others)	1	20.84	1.803
	2	20.24	
	3	19.65	
Forgiveness (Situation)	1	19.30	.110
	2	19.09	
	3	19.32	
Avoidance Motivation	1	19.84	**5.605****
	2	22.44	
	3	21.44	
Revenge Motivation	1	15.31	.188
	2	15.13	
	3	14.97	

Table 1 shows that the mean scores of Forgiveness of self of group 1 (adolescents) was 18.26, group 2 (parents) was 18.67, and group 3 (grandparents) was 18.46. Further, LSD post hoc revealed that there was no significant difference between the three generation groups(F=.384, p>0.05). The mean scores of

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Forgiveness of others was 20.84, 20.24 and 19.65 respectively for group 1 (adolescents), group 2 (parents) and group 3 (grandparents). The obtained value of F (F=1.803, p>0.05) revealed that the three generation groups did not differ significantly on Forgiveness of others. The mean scores of Forgiveness of situation of group 1 (adolescents) was 19.30, group 2 (parents) was 19.09 and group 3 (grandparents) was 19.32. The obtained value of F was found to be non significant (F=.110, p>0.05). Thus, the three generation groups did not differ significantly on any of the sub scales of Forgiveness (Self, Others and Situation)

The mean scores of Avoidance Motivation of group 1 (adolescents) was 19.84, group 2 (parents) was 22.44 score and group 3(grandparents) was 21.44. The obtained value of F was found to be significant (F=5.605, p<0.01). Further, LSD post-hoc test (table-2) revealed that group 1(adolescents) significantly differed from 2 (parents) and 3 (grandparents). Results revealed that adolescents scored significantly lower on Avoidance Motivation than their parents and grandparents. Thus, it can be inferred that when adolescents are not able to forgive the hurtful action of the offender then they are less motivated to avoid contact with that offending person or situation than their parents and grandparents. Whereas, no statistical difference was obtained between group 2 (parents) and group 3 (grandparents)on Avoidance motivation. On Revenge motivation the mean scores of group1 (adolescents) was 15.31, group 2 (parents) was 15.13 and group 3 (grandparents) was 14.97. The obtained value of F (F=.188, p>0.05) didn't show any significant statistical difference between all the three generation groups.

Thus, the three generations groups did not differ significantly on any of the Forgiveness dimension except Avoidance motivation, where the generation group of adolescents significantly differed from the other two groups *i.e.* parents and grandparents. Whereas no statistically significant difference was obtained between parents and grandparents.

Table 2 : LSD post-hoc analysis of mean differences on Avoidance Motivation between the three generation groups

	Comparison groups	*Mean differences*
Avoidance Motivation	**1 -2**	**-2.600***
	1-3	**-1.600***
	2-3	1.000

Similarly, One way AVONA was also applied on Wellbeing variables to study across generation differences in Wellbeing. From table 3 it is clear that the on Life satisfaction the mean scores of group 1 (adolescents) was 25.15, group 2 (parent) was 26.46 and group 3 (grandparents) was 26.28. The obtained value of F (F=1.166, p>0.05) revealed that the three generation groups did not differ significantly on Life Satisfaction. The mean scores of Positive Affect were 26.28,

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37.18 and 33.64 respectively for group 1, 2 and 3. The obtained value of F (F=5.834, p<0.01) was found to be significant. Further, LSD post hoc test (table-4) revealed that group 1 (adolescents) differed significantly from group 2 (parents) and group 3 (grandparents) on Positive Affect. This means that adolescents are more active, strong, excited, enthusiastic and attentive than their parents and grandparents.

Table 3: Mean Scores of the generation groups on Wellbeing and F- value

	Generation Group	*Mean Scores*	*F*
SWL	1	25.15	1.166
	2	26.46	
	3	26.28	
Positive Affect	1	37.18	**5.834****
	2	34.87	
	3	33.64	
Negative Affect	1	24.87	**3.324***
	2	27.67	
	3	27.55	

Table 4: LSD post-hoc analysis of mean differences on Positive Affect between the three generation groups

	Comparison groups	*Mean differences*
Positive Affect	1 -2	2.310*
	1-3	3.54**
	2-3	1.230

The mean scores on Negative Affect of group 1 (adolescents) was 24.87, group 2 (parents) was 27.67 and group 3 (grandparents) was 27.55. The obtained value of F (F=354, p<0.05) was found to be significant. The results in table 5 of LSD post hoc test revealed that all the three groups differed significant. Group 1 (adolescents) scored significantly lower than group 2 (parents) and group 3 (adolescents) on Negative affect. Whereas group 2 that is parents scored higher on Negative affect than grandparents. Thus, parents score significantly higher on negative affect than the adolescent (gp-1) and grandparents (gp-3). Whereas adolescents scored significantly lower on Negative Affect than their parents and grandparents that means adolescents are less distressed, upset, guilty, afraid, nervous and irritable than their parents and grandparents

For analyzing the relationship between the two variables *i.e.* Forgiveness and Wellbeing correlational analysis was applied. Coefficients of Correlation were computed separately for all the three generation groups.

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Table 5: LSD post-hoc analysis of mean differences on Negative Affect between the three generation groups

	Comparison groups	*Mean differences*
Negative Affect	1 -2	-2.800*
	1-3	-2.680*
	2-3	.120

Table 6: Coefficients of Correlation between Forgiveness and wellbeing for Generation group 1 (Adolescents)

	Forgiveness of self	*Forgiveness of others*	*Forgiveness of situation*	*Avoidance Motivation*	*Revenge Motivation*
SWL	.028	.176	.113	-.107	-.016
Positive Affect	.156	**.321****	.117	.123	.051
Negative Affect	-.104	.109	.078	-.106	-.035

The correlation table (table- 6) revealed that Life satisfaction was positively but non-significantly correlated with Forgiveness of self (r=.028), Forgiveness of others (r=.176) and Forgiveness of situation (r=.113). While negative but non significant coefficients of correlations were obtained with two negative motivational states underlying interpersonal forgiving *i.e.* Avoidance motivation (r=-.107) and Revenge motivation (r= -.016). It is clear from the correlation table that there all the coefficients of correlations between Positive affect and all the dimensions of Forgiveness were found to be non significant except with Forgiveness of others. Significant positive association between Positive affect and Forgiveness of others (r=.321, p<.05) means that adolescents with higher positive affect also scored higher on Forgiveness of others, Forgiveness of situation. All the coefficients of correlations between Negative affect and all the dimensions of Forgiveness were found to be non significant among adolescents.

Results show that in case of parents (group 2) the coefficients of correlations between SWL and all the dimensions of Forgiveness were found to be non significant. Life satisfaction was non significantly but positively correlated with Forgiveness of self (r=.102) Forgiveness of others (r= .120) and Forgiveness of situation (r=.162). Non significant but negative correlations were obtained with Avoidance Motivation (r=-.003) and Revenge motivation (r=-.095). It is clear from table 7 that Positive affect was non significantly but positively associated with Forgiveness of self (r=.056), Forgiveness of other (r=.111), Revenge motivation (r=.039) and negatively correlated with Avoidance motivation (r=-.018); but significantly and positively associated with Forgiveness of situation(r=.303, p<.001). This implies that parents having high Positive affect scored high on Forgiveness of situation. Significant and positive coefficients of correlations was

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obtained between Negative affect and Avoidance motivation (r=.274, p<.001) and Revenge motivation (r=.223, p<.005). Negative Affect was significantly but negatively correlated with Forgiveness of situation (r=-.248, p<.005). This means that higher Negative affect lower Forgiveness of situation and higher Avoidance motivation and Revenge motivation among parents.

Table 7: Coefficients of Correlation between Forgiveness and wellbeing for Generation group 2 (Parents)

	Forgiveness of self	*Forgiveness of others*	*Forgiveness of situation*	*Avoidance Motivation*	*Revenge Motivation*
SWL	.102	.120	.162	-.003	-.095
Positive Affect	.056	.111	**.303****	-.018	.039
Negative Affect	-.090	-.056	**-.248***	**.274****	**.223***

Table 8: Coefficients of Correlation between Forgiveness and wellbeing for Generation group 3 (Grandparents)

	Forgiveness of self	*Forgiveness of others*	*Forgiveness of situation*	*Avoidance Motivation*	*Revenge Motivation*
SWL	-.058	.024	.008	-.021	.042
Positive Affect	-.099	-.036	.189	-.034	.024
Negative Affect	-.055	-.113	-.121	**.368****	**.225***

In case of generation group 3 *i.e.* grandparents, Life satisfaction was non significantly associated with all the dimensions of Forgiveness but positively associated with Forgiveness of others (r=.024), Forgiveness of situation(r=.008) and Revenge motivation (r=.042) ; and negatively correlated with Forgiveness of self(r=-.058) and Avoidance motivation(r=-.021). All the coefficients of correlations between Positive affect and all the Forgiveness dimensions were non significant. Whereas, Negative affect was non-significantly but negatively associated with Forgiveness of self (r=-055), situation (r=-113) and others (r=-.121). Significant and positive coefficients of correlations were obtained between Negative Affect and Avoidance motivation (r=.368, p<.001) and Revenge motivation (r=.225, p<.005). This implies that higher Negative affect and higher Avoidance motivation and Revenge motivation among grandparents (group 3).

The relationship of wellbeing measures and Forgiveness varied across generations. For adolescent generation group all the coefficients of correlation between Wellbeing and forgiveness measures were non-significant except Positive Affect and Forgiveness of others. In case of generation of parents significant and positive correlations were obtained between Positive Affect and Forgiveness of situation; Negative Affect and two negative states of interpersonal forgiveness i.e Avoidance and Revenge Motivation. Whereas, significant negative association

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with Forgiveness of situation. In case of grandparents generation significant and positive associations was obtained between Negative Affect and two negative states of interpersonal forgiveness *i.e.* Avoidance and Revenge.

CONCLUSION

In conclusion, it can be said that the three generation groups do not differ on Forgiveness except Avoidance motivation (a negative state of interpersonal forgiveness) but significant generation differences are observed in Positive and Negative Affect. There are different patterns of relationship between Forgiveness and Wellbeing across generation.

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RELATIONSHIPS OF FLOW EXPERIENCE, WELL-BEING AND ACHIEVEMENT MOTIVATION IN RECREATIONAL ATHLETES IN TWO COUNTRIES

Alena Slezackova, Karel Riegel**, and Pavel Humpolicek**

ABSTRACT

The study joins the research topics of health psychology, positive psychology, and sports psychology. The aim of the study is to explore the interrelations of the Flow experience, well-being and motivation in recreational athletes, the clients of indoor cycling program, Spinning. The research sample consists of 101 respondents of two national groups, Czech and Slovak clients of Spinning program. Tools used included FSS questionnaire (Jackson, Marsh, 1996), QAM (Pardel et al., 1987), Happiness Measures (Fordyce, 1988), modified QSDI (Mainhard et al., 2009) and The Scale of Subjective Feelings of Fatigue (Grandjean, 1968). Results revealed significant correlations between specific Flow dimensions and the level of Achievement Motivation and its subscales. In the Czech sample Achievement motivation correlates with three Flow dimensions, i.e. 'Clear Goals' ($r = 0.39$, $p < 0.01$), 'Transformation of Time' ($r = 0.27$, $p < 0.05$) and 'Action-Awareness Merging' ($r = 0.28$, $p < 0.05$) and the scale of Anxiety inhibiting performance is related to the 'Transformation of Time' ($r = 0.35$, $p < 0.01$). In the Slovak sample, the Flow dimension 'Action-Awareness Merging' correlates both with the Achievement Motivation ($r = 0.43$, $p < 0.01$) and the Anxiety supporting performance scale ($r = 0.35$, $p < 0.05$). Further, significant changes in level of emotional and physical well-being were observed, for both groups, before and after the sessions ($t = 9.41$, $p < 0.01$). The implications and application of findings in programs promoting physical and mental health and well-being are suggested.

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Key words: Flow experience; achievement motivation; happiness; sports; Spinning program

People living in big cities and have limited free time to undertake sports and physical training primarily as a means of regulating their somatic health state and achieving physical beauty. However, the efforts to improve their mental and spiritual well-being are not always given the same importance. This trend suits the world of Fitness centres which offer a wide range of sports activities.One of the most popular contemporary fitness activities is an indoor cycling program Spinning, which is a fitness exercise on a stationary bike led by an instructor and accompanied by music. Here, Flow experience is expected to modulate effect of the training process in the context of a client's improving performance. Recent research based on Jackson and Csikszentmihalyi's (1999) work on Flow have verified the dimensional model of Flow experience in a group of aerobic dance participants (Vlachopoulos, Karageorghis, & Terry, 2000). Also, the studies on the active-play videogame players ("exergame fitness"), have proved a significant relationship between performance, Flow and positive emotions (Yu-Ching, Shih-Ting, & Jie-Chi, 2012; Armut, 2013).

The aim of this study is to understand the motivation and emotional experience of people who engage in sports, which is extremely important nowadays when insufficient physical activity and sedentary lifestyles increase the risk of physical and mental disorders. The results of previous studies show that participation in physical activities contributes to resilience and minimizes the vulnerability among adolescents (Bibin Chand & Balakrishnamurthy, 2013). Hence, physical activity promotion programs and interventions aimed at increasing physical health are becoming increasingly important (Dubbert, 2002). To promote cognitive and behavioural changes directed toward more active lifestyle, it is important to understand the motivational and emotional experience in recreational sports (Parker et al., 2010).

Optimal Experience – Flow

The history of optimal experience dates back to 1968 when A. Maslow described so called *peak experience* characterized by strong experiences of joy, deep satisfaction, and even mystical loss of oneself in the experience of transpersonality (Delle Fave & Bassi, 1998). Csikszentmihalyi's fundamental idea is that good and happy life depends on the frequency and intensity of Flow experience, i.e., the absolute immersion in the ongoing activity. Flow experience is closely linked to the ability to control one's conscience and establish inner harmony by means of removing obstacles which hinder the feeling of life fulfilment. It is usually accompanied by the feeling of harmony of body and mind, deep satisfaction, joy and self-confidence (Csikszentmihalyi, 1997).

Csikszentmihalyi (1990) and Nakamura and Csikszentmihalyi(2002) identified nine dimensions of flow. These were Challenge-Skill Balance, Action-Awareness

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Merging, Clear Goals, Unambiguous Feedback, Concentration on Task at Hand,. Sense of Control, Loss of Self-Consciousness, Transformation of Time, and Autotelic Experience

Research shows that Flow can be experienced in all kinds of activities, including one's job, which is classified among obligatory activities (Massimini & Delle Fave, 1991). It is necessary for an individual to find in the activity increased opportunities for action which should be in balance with the level of one's abilities to face challenges (Delle Fave & Massimini, 1988; 1992). It is the proportion between the demandingness of the activity and one's competencies, which is crucial for the emergence of Flow. Collins, Sarkisian & Winner (2008) point out that the experience of Flow is determined by situational factors at a given moment while happiness considerably depends on one's dispositions, not on circumstances. It has been shown that Flow experience is closely related to overall life satisfaction, but it depends on the intensity of Flow. It could be expected that people experiencing high Flow, i.e., more intense Flow, are happier (Sahoo & Sahu, 2009).

Flow in Sport

Sport is an activity, which enables people to go beyond the bounds of everyday experience. The concept of "being in the zone" during an athletic performance fits within Csikszentmihalyi's description of the Flow experience (Young & Pain, 1999). The intensity of the experience in sport is high owing to the fact that it offers the opportunity to achieve most of the dimensions of Flow. The number of experienced dimensions is an indicant of the quality of Flow experience (Jackson & Eklund, 2002).

Through the experiences of joy and satisfaction, which are contained in optimal experience, Flow is equally achieved in recreational sport. Jackson and Csikszentmihalyi (1999) claim that the state of consciousness which accompanies the optimal experience directs, and in a way "pushes", an individual to reach their own limits, which is the reason why Flow is so important for athletes, in terms of achieving maximum performance. The study by Bernier, Thienot, Codron, & Fournier, (2009) shows an interconnection between Flow, mindfulness (attention to one's own conduct) and the states of acceptance of emotional experiences. Certain components of optimal performance are thus comparable to the components of mindfulness. According to Jackson and Roberts (1992), peak performances, perception of one's own abilities, and masterly concentration on activity are connected with Flow, which suggests that high perception of Flow is necessary for achieving peak performances in a competition.

Flow can be experienced not only at the individual level, but also as social experience. Based on his study on social Flow, Walker (2010) claims that solitary Flow, while quite enjoyable, is not as enjoyable as social Flow. In another study, Wiggins and Freeman (2000) measured the influence of anxieties supporting and

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inhibiting performance on optimal experience in a volleyball match. Players with higher anxiety supporting performance were achieving higher scores in individual dimensions of Flow, and they were experiencing clearer feedback about their performance. They were showing higher concentration and less concern about what the others think about them. Anxiety supporting performance, one of the subscales of achievement motivation, thus seems to be related to the opportunity to enter the state of Flow.

The influence of music in sport, including its relationship with Flow experience, was examined in a group of Swedish athletes by Laukka and Quick (2011). It was found that the athletes used music in many purposeful ways in order to facilitate their training and performance. Listening to music during pre-event preparations, warm-ups, and training sessions increased pre-event activation, positive affect, motivation, performance levels and also the experience of Flow.

Achievement Motivation

Stackeova (2010) asserts that achievement motivation concerns the influence of motivational tendencies on a real performance of an individual. As regards Flow, a particularly significant role is played by intrinsic motivation. Studies show that Flow experience is usually present in the situations which are not connected with achieving external gains. In professional sport, intrinsic motivation increases fair-play, whereas extrinsic motivation relates to professional athletes' increased willingness to use doping substances (Donahue et al., 2006). Flow can also be experienced by a highly performance oriented individual but in such cases Flow experience is minimized (Walker, 2002). However, other authors point out that the motive of achieving Flow experience can actually be included in subconscious motives of a performance oriented individual (Kuhl & Henseler, 2004).

For the majority of both professional and amateur sportsmen, competition is an important aspect of sports activity, for it can show if training brings satisfactory results. This effect can be observed at two levels: "information perspective" optimises challenges and competencies with positive feedback through increasing joy and intrinsic motivation for an activity; "control perspective" becomes active at the moment when winning becomes the dominant factor affecting the performance. Such involvement of an ego has negative influences, namely lowering autonomy and blocking intrinsic motivation (Deci & Ryan, 1985). Achieving positive emotions and feelings of joy from performing an activity can be considered as indicators of a rather complex experience of the activity, characterized by intrinsic motivation (Harackiewicz & Sansone, 1991; Pretty & Seligman, 1984). Sansone & Morgan (1992) equally observe the significance of extrinsic motives. Preponderance, which is limiting for performance of an individual, can paradoxically lead to the individual's greater interest in the activity, and to creating strategies for making one's resulting performance personally more appealing. Intrinsic motives for an activity which

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is performed for its own sake are related to the term Autotelism (Csikszentmihalyi, 1997; Nakamura & Csikszentmihalyi, 2002).

Other findings also emphasize the importance of identifying the strength of motivation. Waterman et al. (2003) conducted a study on subjective experience of intrinsic motivation (i.e., Flow experiences, interest, and feelings of personal expressiveness) and revealed that all of the three forms were substantially interrelated. It shows that self-determination plays a central role in the subjective experience of intrinsic motivation across all its aspects, whereas self-realization values contribute primarily to the more intense experiences of Flow and personal expressiveness.

Spinning Program

At the end of the 1980's in the USA, Johnatan Goldberg, an ultra-distance cyclist also known as Johnny G., created an indoor cycling program Spinning: fitness exercising on a stationary bike led by an instructor and accompanied by music. Spinning has become an activity, which does not only train the body but also integrates one's emotions into a time-limited lesson. Each lesson has its specific focus and it is sensitively arranged, in order to enable the clients to achieve their health and fitness goals within 40 minutes (Bruhn, 2004). It is particularly due to the unique interconnection of the work of body and mind that Spinning has achieved success on the market and has expanded worldwide.

Body and mind training involves the integration of an inner self-image. It combines a client's attention to their own physical efforts with the use of mental images (Mad Dogg Athletics, Inc., 2002). During a Spinning lesson, clients find themselves in an environment where by means of their immersion in an activity they train not only their bodies but also work with their minds, which will understand the bodies.

Burke (1995) & Goldberg (1995) state that Spinning program maintains the clients' minds interest in the activity, while they are vigorously striving to tackle the challenges of their bodies.

Guided visualization and music make a Spinning lesson very motivating and inspiring. In an intelligent conception of training, based on the ABC of exercise, i.e., adaptation, body/mind connection and concentration, where experience is as important as performance (Mad Dogg Athletics, Inc., 2003). The realization of one's own competencies in regard to the activity enables an individual to have optimal experience (Sansone & Morgan, 1992).

The newest trends in Spinning program combine Spinning with subsequent specific yoga *asanas*, as they require similar mental involvement of the client (Parks, 2013). These conclusions are also reached by Gura (2002) whose study shows that sportsmen in an athletic field as well as employees at a workplace are often faced with mental stress which weakens their performances and can

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be one of the causes of musculoskeletal disorders. Practising yoga can be a good preventive technique, because it can improve one's performance at work by means of reducing tension and stress.

The aim of the present research is to examine the level of Flow experience and its relationship to achievement motivation and happiness in Czech and Slovak clients of Spinning. The following research questions have been formulated:

RQ 1: What is the incidence and quality of Flow experience in regular participants of Spinning program?

RQ 2: Is Flow experience related to the level of respondents' achievement motivation?

RQ 3: Are there any differences in the level of Flow experience and achievement motivation between Czech and Slovak samples of respondents?

RQ 4: Is the quality of Flow experience influenced by the instructor's style of leading the Spinning lesson?

RQ 5: Does the Spinning lecture cause subsequent changes in the level of respondents' emotional and physical well-being?

METHOD

Sample:

The total of 101 respondents (57 women and 44 men) from 8 official Spinning centres in Central Europe participated in the research Five of the centres were located in the Czech Republic and three in Slovakia. The average age of respondents was 39 years, 70% of them were regular participants in Spinning lessons for at least 3 years. The participation in the study was voluntary and anonymous. The clients who were invited to the survey met the following criteria: positive attitude towards Spinning (based on the verbal proclamation that Spinning is one of their favoured activities); participation in standard Spinning lessons for at least three months (twice a week or more frequently) with the main part of the lesson lasting 40-45 minutes. According to Goldberg (1995), this period of time is necessary for building an aerobic base and retaining correct riding tecnique.

Tools:

In the present study the following tools were used:

- *Flow State Scale*: FSS questionnaire (Jackson & Marsh, 1996) measured the quality of Flow in connection with Spinning. It contains 36 items divided into 9 dimensions of Flow, which are presented in the introduction to this paper. Two items were added by the present researchers : "I was satisfied with the way the instructor led the activity" and "I was satisfied with the choice of music." Respondents used a five-point Likert response scale. Overall reliability can be considered as high (Cronbach á=0.87).

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- *Happiness Measures.* Happiness Measures (Fordyce, 1988) was used to detect the respondents' current emotional well-being. In the first part of the scale, respondents assessed the level of happiness by selecting one of 11 statements offered as answers, ranging from "I am extremely happy" to "I am extremely unhappy". In the second part of the method, respondents were asked to express the extent to which they felt happy, unhappy and neutral in percentage where the total was 100%.
- *Questionnaire of Supervisor – Doctoral Student Interaction* . Subjective evaluation of the predominant type of an instructor's leadership in the Spinning lesson was carried out on the basis of a modified questionnaire QSDI (Mainhard & Rijst, 2009). It is a revised questionnaire containing 41 items which are unevenly distributed within 8 dimensions: 'Leadership'; 'Helping/friendly'; 'Understanding'; 'Responsibility/ freedom'; 'Uncertain'; 'Dissatisfied'; 'Admonishing'; and 'Strict'. First four dimensions relate to the positive aspects of instructors, and the remaining dimensions relate to the negative ones. In order to verify the reliability of the questionnaire, individual dimensions separately as well as all dimensions of the questionnaire as a whole ('All dimensions') were subjected to analysis. Overall reliability of the method can be considered as satisfactory (Cronbach á=0.71).
- *Questionnaire on Achievement Motivation.* Achievement motivation was examined by QAM (Pardel et al., 1987). The questionnaire is a modification of Hermans Measure of Achievement Motivation (Hermans, 1970) in its fourth revision. It contains 52 items constituting 3 scales: Achievement Motivation scale (AM, comprising 24 items), scale of Anxiety Inhibiting Performance (AI, comprising 17 items) and scale of Anxiety Supporting Performance (AS, comprising 10 items). In assessing the probability of the level of achieving performance, both the motive of avoiding failure (related to AI scale) and a mild, optimal state of tension permitting better performance (related to AS scale) are considered.
- *The self-evaluation Scale of Subjective Feelings of Fatigue* (Grandjean, 1968) was used in order to examine respondents' present physical well-being. This scale consists of set of eight bipolar characteristics, such as 'relaxed – tensed' or 'fresh – exhausted'. The respondents mark on a seven-point scale to which of the opposite poles they find themselves in a given moment.

The questionnaires were administered in two phases, before the beginning of the Spinning lessons and immediately after the training sessions.

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RESULTS AND DISCUSSION

Incidence and Quality of Flow Experience

The analysis of the data shows that the individual components of Flow are not experienced equally. The most experienced dimension of Flow is 'Autotelic experience', i.e., enjoying the activity or taking enormous satisfaction from it. The least experienced areas include 'The Loss of Self-Consciousness' and 'Transformation of Time' (see Table 1). Similar results were obtained by Jackson (1996) in her qualitative analysis of sportsmen's experiences.

Table 1: Average scores and alpha coefficients of individual dimensions of FSS

Name of dimension	*(M)*	*á*
Autotelic Personality	4.50	0.73
Sense of Control	4.32	0.81
Clear Goals	4.31	0.69
Concentration on Task at Hand	4.21	0.75
Challenge-Skill Balance	4.19	0.83
Unambiguous Feedback	4.04	0.79
Action-Awareness Merging	3.76	0.71
Loss of Self-Consciousness	2.93	0.43
Transformation of Time	2.79	0.45

Incidence of Flow Experience was also explored with regard to nationality of respondents. The only significant difference between the groups of Czech and Slovak clients was detected in the dimension 'Autotelic Experience' (t = -2.06, df = 99, $p < 0.05$, n = 4.43, SD = 0.49), with Slovak respondents scoring higher.

Relationship between Flow and Achievement Motivation

The correlation analysis shows significant relationships between Achievement motivation scale and the Flow dimensions 'Clear Goals' ($r = 0.30$, $p < 0.01$, N = 101) and 'Action-Awareness Merging' ($r = 0.33$, $p < 0.01$, $N = 101$). The scale of Anxiety inhibiting performance significantly correlates with the Flow dimension 'Transformation of Time' ($r = 0.30$, $p < 0.01$, $N = 101$). The correlation analysis was also carried out for each of the national groups of respondents separately and revealed interesting results (see Table 2). In the Czech sample, significant relationships between the achievement scales and Flow dimensions have been revealed: Achievement motivation scale (AM) correlates with the Flow dimensions 'Clear Goals' ($r = 0.39$, $p < 0.01$, $N = 62$), 'Transformation of Time' ($r = 0.27$, $p < 0.05$, $N = 62$), and 'Action-Awareness Merging' ($r = 0.28$, $p < 0.05$, N = 62) and the scale of Anxiety inhibiting performance (AI) significantly correlates with the Flow dimension 'Transformation of Time' ($r = 0.35$, $p < 0.01$, N = 62). In Slovak clients, significant correlations have been found between

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Achievement motivation scale (AM) and the Flow dimension 'Action-Awareness Merging' ($r = 0.43$, $p < 0.01$, $N = 39$) and the scale of Anxiety supporting performance (AS) and the Flow dimension 'Action-Awareness Merging' ($r = 0.35$, $p < 0.05$, $N = 39$).

Table 2: Correlations between the dimensions of FSS and the scales of Q-A-M in the groups of Czech and Slovak respondents

Nationality	*CZ*[a]			*SK*[a]		
Q-A-M	*AM*[b]	*AI*	*AS*	*AM*	*AI*	*AS*
Autotelic Personality	0.17	0.01	-0.01	0.12	-0.06	0.12
Sense of Control	0.18	-0.04	-0.01	0.19	-0.18	-0.14
Clear Goals	**0.39****	0.14	-0.02	0.17	-0.21	-0.24
Concentration on Task at Hand	0.14	-0.06	0.14	0.10	-0.15	-0.01
Challenge-Skill Balance	0.21	0.15	-0.07	0.16	-0.13	0.03
Unambiguous Feedback	0.17	0.16	0.02	0.08	-0.12	0.17
Action-Awareness Merging	**0.28****	0.14	-0.24	**0.43****	-0.06	**0.35****
Loss of Self-Consciousness	-0.05	0.20	-0.06	0.08	0.13	0.16
Transformation of Time	**0.27***	**0.35****	0.07	-0.01	0.20	-0.09

Note: *Correlation at the significance level $p < 0.05$. **Correlation at the significance level $p < 0.01$. (Pearson correlation coefficient)

(a) CZ Group of Czech respondents; SK Group of Slovak respondents.

(b) AM Achievement Motivation scale; AI scale of Anxiety Inhibiting Performance; AS scale of Anxiety Supporting Performance.

Relationship between Flow Experience and Leadership Style in the Spinning lesson

Exploration of the relationships between the dimensions of FSS and the most reliable dimensions of The QSDI. The following table (see Table 3) shows that only the dimensions evaluating the positive personality characteristics 'Helping/friendly' and 'Understanding' correlate with the dimensions of Flow significantly ($r < 0.30$, $p < 0.01$; $N = 101$). With regard to the fourth research questions, the relationships between following Flow dimensions have been found as relevant: The leadership style 'Helping/friendly' show significant relationship to the Flow dimensions 'Autotelic Experience' ($r = 0.39$), 'Challenge-Skill Balance' ($r = 0.38$), 'Clear Goals' ($r = 0.36$), and 'All dimensions' of Flow ($r = 0.36$). There is also significant correlation with 'Additional Dimension', comprising satisfaction with the instructor's leadership style and satisfaction with selected music ($r = 0.44$). The leadership style 'Understanding' is significantly related to the Flow dimensions 'Autotelic Experience' ($r = 0.36$), 'Clear Goals' ($r = 0.31$) and satisfaction with the instructor and music (i.e. 'Additional Dimension', $r = 0.43$).

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Table 3: Correlations between the dimensions of FSS and selected dimensions of QSDI

QSDI FSS	'Helping/friendly'	'Understanding'
Autotelic Experience	**0.39****	**0.36****
Sense of Control	0.22	0.10
Clear Goals	**0.36****	**0.31****
Concentration on Task at Hand	0.29	0.22
Challenge-Skill Balance	**0.38****	0.23
Unambiguous Feedback	0.26	0.05
Action-Awareness Merging	0.25	0.15
Loss of Self-Consciousness	-0.14	-0.13
Transformation of Time	0.10	-0.12
Additional dimension	**0.44****	**0.43****
All dimensions	**0.36****	0.18

Note: Correlations higher than .30 at the significance level $p < 0.01$.

Changes of the Level of Respondents' Emotional and Physical Well-being before and after the Spinning Lesson

Paired t-test revealed significant differences in terms of positive changes in the level of both physical and emotional well-being (i.e. happiness) before and after the Spinning lesson. The changes concerned all of the opposing items in Grandjeans scale (see Table 4). The largest difference was found on the scale 'Satisfied – Disgusted' ($t = 8.05$, $df = 100$, $p < 0.01$, $n = 1.02$, $SD = 1.23$). The positive changes in happiness were also detected by the Happiness Measures, both in the intensity of happiness ($t = 9.41$, $df = 100$, $p < 0.01$, $n = 1.07$, $SD = 1.14$) and in the estimated percent of time when the client felt happy during the lesson ($t = -9.12$, $df = 100$, $p < 0.01$, $n = -14.95$, $SD = 16.49$) .

Table 4: The changes of the level of Happiness before and after the Spinning lesson

Grandjean Questionnaire	*t*
Relaxed – Tensed	6.70
Fresh – Exhausted	4.31
Satisfied – Disgusted	**8.05**
Alert – Sleepy	6.42
Rested – Tired	2.86
Calm – Irritated	3.67
Lively – Lazy	5.49
Awake – Dampened	7.05

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Based on the results of the FSS analysis, it has been proved that during a standard Spinning lesson both Czech and Slovak clients achieve Flow experience, because they reach at least average levels in six out of its nine dimensions. However, more detailed analysis shows that not all the areas of flow are saturated evenly. Some studies researching Flow in the field of cybernetics (Mauri &Cipresso,2011; Rettie, 2001) or in everyday activities (Collins et al., 2008), consider the dimensions 'Loss of Self-Consciousness', 'Transformation of Time' and 'Action-Awareness Merging' as necessary components of Flow. Tenenbaum ,Fogarty and Jackson (1999), on the other hand, emphasises the fact that individual dimensions of Flow share a relatively consistent pattern; therefore, optimal experience can be considered as a sequence of unique experiences, which can be found on a linear continuum.

In the present sample, the Flow dimension 'Action-Awareness Merging' demonstrates very low correlations with other dimensions of Flow. The closest relationship has been found between the components 'Sense of Control' and 'Challenge-Skill Balance'. Taking into account the significant relationship between the Flow dimensions 'Sense of Control' and 'Concentration on Task at Hand', it apperars that both Czech and Slovak clients need a substantial control of their task as well as a high concentration on it, in order to achieve positive gains from their activity. The Flow dimension of 'Action-Awareness Merging' could interfere with the expected fulfilment of 'Clear Goals', namely, because of the loss of rational control over the socially desirable behaviour. The ability to put away the immediate response to one's external stimulus or internal instinctive impulses is, according to Freud (1969 in Storr, 1996), a characteristic trait of an ego whose primary function is self-preservation. As Jackson and Thomas (2001) assert, upsetting the 'Challenge-Skill Balance' can be a direct cause of the feelings of anxiety or boredom. The clients addressed for the purposes of this study thus appear to be careful keepers of the state which is internally satisfactory for them, but at the same time quite fragile and difficult to preserve.

Statistically significant differences between the results of the national groups of respondents in the dimension 'Autotelic experience' can be considered as an extremely valuable result. It is remarkable that the correlation between the dimensions 'Autotelic experience' and 'Sense of Control' was one of the least tight relationships with respect to all the dimensions compared. Both groups of respondents differed by nearly one point in the average evaluation of the dimension 'Autotelic experience' (M(SK) = 18.49; M(CZ) = 17.71). In the cultural context, the results obtained can be interpreted as the difference in togetherness of clients at the lessons. Stronger sense of togetherness in Slovak clients enables them to achieve higher authenticity in experiencing themselves in an activity, and thus a higher level of Flow. On the other hand , Czech clients seem to be more competitive. Deci and Ryan (1985) in this context describe so called "control

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perspective", which becomes active at the moment when winning becomes the dominant factor affecting the performance. Such involvement of an ego has negative influences, namely lowering autonomy and intrinsic motivation.

The significant relationship between the Achievement motivation scale and the Flow dimension 'Clear Goals' gives unequivocal evidence of above-average orientation towards performance, which is an important personality feature in both Czech and Slovak clients of the Spinning programme. The fact that, in the context of optimal experience, it does not always represent a positive phenomenon is confirmed by the significant relationship between the Achievement motivation scale and the dimension 'Action-Awareness Merging'. The problematic dimension 'Transformation of Time' reaches statistical significance in relation to the scale of Anxiety Inhibiting Performance. Separate analysis has revealed that both of the correlations described above are especially evident in the group of Czech clients. In the group of Slovak clients, on the other hand, statistically significant relationships have been revealed between the dimension 'Action-Awareness Merging' and both the Achievement Motivation scale and the scale of Anxiety Supporting Performance, respectively. Supposing deep immersion in an activity can be accompanied by some changes in the perception of time, in Czech clients the level of achievement motivation inhibits such immersion, and the change in experiencing time appears to be a potentially threatening factor for achieving a goal. Slovak clients, on the contrary, perceive deep immersion in an activity as a supporting aspect of achieving a goal. In the case of Czech respondents, the majority of who attended Spinning lessons in two biggest cities of the country, an important role was probably played by the influence of metropolitan lifestyle, which is based on the postulate that human beings may derive their right to exist solely from their performances (Röhr, 2003).

The fact that the satisfaction with an instructor's leadership style and the choice of music can be an important predictor of the incidence of the higher quality of Flow is confirmed also by the significant correlations between the QSDI dimension 'Helping/ friendly', and the FSS areas 'All dimensions' and 'Additional dimension'. Equally significant correlations between the FSS dimension 'Autotelic experience' and both QSDI dimensions 'Helping/ friendly' and 'Understanding' illustrate that convenient environment for the emergence of Flow is offered in those Spinning lessons which are characterized by family atmosphere, limited number of clients, and the instructor in the role of a friendly and empathetic guide. The importance of the focus on the feedback given to the client is pointed out by Csikszentmihalyi (1990). Vlachopoulos et al. (2000) have mentioned, as the workout was conducted synchronously with music, the rhythmic elements of the music may have regulated the participant's sense of time.

The climate of the lesson together with the choice of music has also been reflected in the changes of clients' emotional well-being before and after the

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Spinning lesson. Relations of the higher emotional response on the music by female are in accord with previous studies of everyday music listening (e.g. Juslin et al., 2011) and uses of music in sports and exercise (Laukka & Quick, 2011). Although both Grandjean's scale and the questionnaire Happiness Measures have yielded significant results for the whole sample of respondents, the analysis of the averages of individual items has manifested that during the Spinning lesson, there is a noticeable shift in physical and emotional well-being towards the positive pole, particularly in Slovak female clients. That equally leads to their generally higher level of perceived happiness after the training session. To a certain extent, these findings have confirmed the conclusions reached by Tenenbaum et al. (1999), whose study states that in the state of Flow, women are focused mostly on the experiences of joy, while men on their abilities.

This research has proved that not only the clients' motivation and the personality of an instructor, but also the overall atmosphere of a Spinning lesson can create for all participants the environment in which Flow can emerge easily. Through the support of the Flow experience as well as the concentration of clients' attention to what is happening 'here and now', one can contribute to clients' good health and the fulfilment of the meaning of life. On the other hand, it is shown that mere long-term experience with Spinning is not, in itself, the predictor of frequent occurrence of optimal experience. In this point, the conclusions of the present study differ from the study by Yu-Ching, et al. (2012), carried out in a group of exergames.

The authors are aware of the limits of this study, namely, the limited number of respondents, and little cultural variety between Czech and Slovak environments. Further research could compare the acquired data with the data stemming from similar studies carried out in the countries where the main administrative bodies possessing the licence of Johnny G. Spinning program are based. In a larger context, the results of this study can contribute to better understanding of the relationship between the motivation for a physical activity and the positive emotional experience, which can find its practical application in the development of complex programs supporting both physical and mental health.

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PSYCHOLOGICAL CAPITAL: A POSITIVE RESOURCE TO AID ADJUSTMENT AND COMBATING DEPRESSIVE SYMPTOMS AMONG HEALTH CARE PROFESSIONALS

*Himani Jain*and Rohtash Singh***

ABSTRACT

In the 21st century, life has become so demanding for all of us, even the health care professionals are no exception. It drains our energy, hope, and drive, making it difficult to do what we need to feel better. Feeling better takes time, but we can get there if we make positive choices for ourselves each day. The present study was conducted to examine the relationship of Psychological Capital with Depression and Adjustment among health care professionals. A sample of 92 participants (38 males and 54 females) was taken for the study. The participants were assessed on Bell Adjustment Inventory, Beck Depression Inventory for adjustment and depression, respectively. For Psychological Capital, four different measures i.e, Dispositional Hope scale, General Self- efficacy scale, Resilience scale, and Life Orientation Test (Revised) were used. Results showed that the measures of psychological capital are positively correlated with adjustment and negatively correlated with depression. Multiple regression analysis revealed that psychological capital substantially contributes in adjustment and combating depression.

Keywords: Psychological Capital, Depression, emotional issues. Adjustment.

INTRODUCTION

Health care professions face numerous stressors within their clinical practice, including time pressures, workload, multiple roles and emotional issues. Frequent

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workplace stress can impact on the physical and mental wellbeing of health professionals and result in maladjustment and, in some cases, depression and traumatic stress-like symptoms (Stamm, 2010). These outcomes can impact not only on the wellbeing of health professionals but also on their ability to practise effectively. Psychological capital (PsyCap) is promoted for the study and its application of positively oriented human resource strengths and psychological capacities (Luthans & Youssef, 2004). Psychological Capital (PsyCap) goes beyond human ('what you know') and social ('who you know') capital, and is more directly concerned with 'who you are' and more importantly 'who you are becoming' (*i.e.*, developing one's actual self to become the possible self).

PsyCap as a higher-order core factor (Luthans, Avolio, Avey & Norman, 2007) that is open to development (Luthans, Avey, Avolio, Norman, & Combs, 2006; Luthans, Avey, & Patera, 2008) and is associated with higher performance (Luthans, Avolio et al., 2007). PsyCap is a higher-order core construct and consists of four state-like psychological resources *i.e.* self efficacy, hope, resilience and optimism. All these components of psychological capital are found to be associated with development and better performance. People with high level of hope and resilience have the "will" and the "ways". PsyCap can improve employees' well-being at workplace and it could also be used as a positive resource for combating employees' stress symptoms, burnout, and depressive symptoms (Avey, Luthans & Jensen, 2009; Liu, Chang, Fu, Wang & Wang, 2012; Luo & Hao, 2010).

Fredrickson (1998) suggested that positive emotions have been associated with increased optimism (Fredrickson, Tugade, Waugh, & Larkin, 2003), resilience to negative life events (Folkman & Moskowitz, 2000; Tugade& Fredrickson, 2004). Fredrickson and her colleagues (2003) argued that positive affect helps build resiliency in individuals, allowing them to flourish even when faced with difficult situations. Conversely, if resources are either not built due to the failure to experience sufficient positive affect or if they are depleted by chronic exposure to stress, the likelihood of developing mental health problems like depression, may increase.

Seligman and Csikszentmihalyi (2000) found that certain human strengths such as courage, hope, and optimism, acts as buffers against psychological disorders (Peterson, 2000; Farran, Herth, & Popovich, 1995). Hope is particularly interesting attribute that can serve as a motivational factor to initiate and sustain action toward goals and has also been linked to happiness, perseverance, achievement and health. Further, Snyder, Cheavens, and Michael (1999) reported that hope is associated with measures of adaptive functioning such as psychological adjustment and physical well-being.

Bandura (1995) reported that self-efficacy makes a difference in how people feel, think, behave, and motivate themselves. He reported that in terms of feeling,

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a low sense of self-efficacy is associated with stress, depression, anxiety, and helplessness. Such individuals may have low level of self-esteem and are prone to become pessimistic about their accomplishments and personal development. Wexler (1991) and Williams (1995) found that Self-referent thought and associated perceptions of self-efficacy influence the way in which the person develops an appropriate identity and charts a suitable course of behaviour through this often turbulent period: those young people who feel that they are not able to control their life circumstances or outcomes may manifest anxiety and depression as responses to perceived deficiencies or inabilities.

Arnau and associates (2006) tested the prospective effects of hope on depression and anxiety using a longitudinal design. A sample of 522 college students completed self-report measures of hope, depression, and anxiety at three time points, with 1-month delays between administrations. Structural equation model was employed to test two cross-lagged panel models of the reciprocal effects of the Agency and Pathways components of hope on depression and anxiety. Results showed significantly negative effects for Agency component of hope on later depression but no unique effect of the Pathways component of hope on depression.

Edward (2005) stated that personality type and resilient behaviors provide protection from the experience of depression. When persons experiences depression, it becomes extremely difficult for them to adjust normally with the provided environment. The human being always try to the behavioural process of balancing conflicting needs, or needs against obstacles in the environment. Adjustment problems occur when there is an inability to make a normal adjustment to some need or stress in the environment. Work in clinical and positive psychology (Block & Kremen, 1996; Coutu, 2002; Masten, 2001) suggests that highly resilient individuals tend to be more effective in a variety of life experiences, including adjustment and development under a variety of life-course threatening conditions.

Maladjusted individuals are characterized by a variety of personality abnormalities and psychological disturbances including impulsivity, hopelessness, depression, low self esteem level, and anxiety. People are to learn to strike a balance between modernity and tradition, which is stressful and poses challenge to one's coping mechanism. This brings a sense of uneasiness, restlessness which leads to maladjustment or even a tendency to submit to the suicidal feelings. The severity of maladjustment and depressive symptoms depends upon the level of psychological capital *i.e.* hope, resilience, self efficacy and optimism. Keeping in view the above facts, the present study is an attempt in this direction with aimed at (i) to study the relationship psychological capital with adjustment and depression, and (ii) to study the contribution of psychological capital in adjustment

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and depression. It was hypothesized that psychological capital correlates positively with adjustment and negatively with depression, and will contribute substantially to adjustment and depression.

METHOD

Sample

The sample consists of 92 participants (both 38 male and 54 female) working as health care professionals (physicians, nurses, psychologists, physiotherapists, speech and language therapist, dietician, and neurologists). The age range of the participants varies from 21 to 65 years (mean = 39.09). In general, the participants were having good health and did not suffer from any serious or chronic ailment. Only those participants were included in sample that had given consent to participate.

Tools Used

Psychological Capital

The following four separate measures *i.e.* self-efficacy, hope, optimism, and resiliency were used to measure psychological capital:

Dispositional Hope Scale: This scale was developed by Snyder et al. (1991) and consists of 12 items: four are distracters, four tap agency for goals, and for tap pathways thinking in regard to goals. Subjects respond on an eight point continuum (1 = definitely false, to 8 = definitely true), such that scores can range from a low of 8 to a high of 64. The author reported that the scale is internally consistent (alphas in the range of .80 for several studies); moreover, the four agency items load principally on one factor and the four pathways items load principally on another. Likewise, the dispositional hope scale has evidenced construct and discriminant validity through several studies (Snyder et al. 1991).

General Self-efficacy Scale: This scale is developed by Schwerzer and Jerusalem (1995). It consists of 10 items to assess a general sense of perceived self-efficacy. Subjects respond on a four point continuum (1 = not at all true, to 4 = exactly true), such that scores can range from a low of 4 to a high of 40. The scale's alpha reliability is reported 0.85 by the author. Criterion-related validity is documented in numerous correlation studies where positive coefficients were found with favorable emotions, dispositional optimism, and work satisfaction. Negative coefficients were found with depression, anxiety, stress, burnout, and health complaints.

Resilience Scale: The scale was developed Wagnild and Young (1993), which measure the capacity to withstand life stressors, and to thrive and make meaning from challenges. It consists of 14-items. This short form of the scale is an offshoot of the 25 items scale and measures similar psychological concept. The Cronbach's alpha coefficient for the scale is 0.81. Relationships between

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the Resilience Scale and other variables (*e.g.*, forgiveness, stress, anxiety, and health promoting activities) were supported strengthening the evidence for construct validity of the scale. It has been used with a variety of individuals of different ages, socioeconomic, and educational backgrounds. The scale has performed as a reliable and valid tool to measure resilience and has been used with a wide range of study populations (Wagnild, 2009).

Optimism: The Life Orientation Test – Revised (LOT-R; Scheier, Carver, & Bridges, 1994) is a 10-item scale, out of these four are filler items and six are scale items. The test includes three positively worded and three negatively worded items (these are reverse coded). Respondents are asked to indicate their level of agreement with each of the items on a 4-point scale, using the response format, "strongly agree" to "strongly disagree". This gives a possible range of 6-24, with higher scores indicating more optimism. The authors reported an internal reliability coefficient of .78 for LOT-R for an undergraduate sample. The internal reliability coefficients for subscales were .62 (Optimism) and .78 (Pessimism).

Bell Adjustment Inventory (BAI): This inventory was developed by Bell (1968) and it comprises of 140 items. The items measure the areas of adjustment *i.e.* home, health, social, emotional, and occupational. This test can be used as screening tool for the poorly adjusted persons. The odd-even reliability coefficients varied from .82 to .92 for various areas of adjustment and indicated the high reliability. The validity of the inventory (Indian adaptation) was ensured by adapting various validation procedures as reported by the author.

Beck Depression Inventory-II (BDI-II): This inventory was developed by Beck, Steer and Brown (1996). It is a 21- item self report instrument measuring the severity of depression. For the BDI –II four items were replaced in BDI- 1A in order to index symptoms typical of severe depression. The items were organized according to severity of the content and each item is rated on a 4 point scale ranging from 0 to 3 in term of severity. The coefficient alpha of the BDI-II for the outpatients and college students was .92 and .93, respectively. This is a valid instrument and has the coefficient of correlation form .47 to .71 for different criterion instruments.

RESULTS AND DISCUSSION

To meet the objectives of the study Pearson correlation and multiple regression analyses were performed for data analysis. The perusal of Table – 1 reveals that the measures of psychological capital (Hope, self-efficacy, resilience and optimism) are negatively correlated with depression and adjustment (*i.e.* Maladjustment, as the test scores). The significant negative correlation between these measures suggests that subjects high on the measures of psychological capital (Hope, self-efficacy, resilience and optimism) tend to have low depression and low on maladjustment. It indicates that persons low on psychological capital

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is more prone to have depression and maladjustment. Hope is negatively correlated with depression ($r = -.63$, $p < 0.01$) and adjustment ($r = -.53$, $p < 0.01$) which suggests that subjects scoring high on hope tend to have low depression and better adjustment in their life. This result has also been supported by several others studies where hope has been identified by many to be essential to life (Chi, 2007; Miller, 2007; Castledine, 2000; Kylma & Vehvilainen-Julkunen, 1997). Studies show that hope is consistently associated with fewer symptoms of depression (Cheavens, Feldman, Gum & Snyder, 2005). Improved physical and psychological health results from hope (Bernays, Rhodes, & Barnett, 2007; Hollis, Massey & Jevne, 2007; Dunn, 2005; Benzein & Saveman, 1998). Extensive research shows clients who have hope demonstrate a subjective improvement in their quality of life (Sanatai, Schreier & Stitt, 2008; Chi, 2007; Hollis et al., 2007; Benzein & Saveman, 1998). Snyder, Cheavens, & Michael (1999) suggested that hope is associated with measures of adaptive functioning such as psychological adjustment, physical well-being, and problem-focused coping.

Table 1: Correlation Matrix

Variable	*Self-efficacy*	*Resilience*	*Optimism*	*Depression*	*Adjustment*
Hope	.592**	.395**	.474**	-.630**	-.536**
Self- efficacy		.850**	.789**	-.780**	-.845**
Resilience			.835**	-.748**	-.896**
Optimism				-.680**	-.745**
Depression					.730**

** Correlation is significant at the 0.01 level (2-tailed).

Self-efficacy is found to be negatively correlated with depression ($r = -.78$, $p < 0.01$) and adjustment ($r = -.84$, $p < 0.01$) which suggests that subjects high on self-efficacy are less likely to be affected with depression and have low maladjustment *i.e.* tend to be high on adjustment. This finding of the study is in line with other studies (Yusoff, 2012; Porter et al., 2008), which stating that self-efficacy has been significantly related with psychological adjustment. Those people who feel that they are not able to control their life circumstances or outcomes may manifest anxiety and depression (Wexler, 1991; Williams 1995). High self-efficacious people manage and cope with their threat experience than inefficacious people who distress themselves and impair their level of functioning in stressful situations. Low self-efficacy expectancies are an important feature of depression (Bandura, 1997; Maddux & Meier, 1995).

Resilience is negatively correlated with depression ($r = -.74$, $p < 0.01$) and adjustment ($r = -.89$, $p < 0.01$) which suggests that subjects high on resilience are less likely to be affected with depression and tend to have low maladjustment.

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Several studies support these findings, Edward (2005) stated that Personality type and resilient behaviours provide protection from the experience of depression, and resilience can increase the risk of not being depressed. Research support that subjects with low or moderate resilience levels showed a strong association between rising distress and worsening situations across time (Yi, et al., 2008). Spies and Seedat (2014) found a significant negative correlation between depressive symptomatology and resilience ($p=<0.01$). PLS path analysis revealed a significant direct effect between depression and resilience. Optimism has been found to be negatively correlated with depression ($r = -.68$, $p < 0.01$) and adjustment ($r = -.74$, $p < 0.01$) which suggests that subjects high on optimism are less likely to be affected with depression and tend to have better adjustment. Some researches in this area found that optimistic persons experience less distress during times of adversity and are generally healthier than pessimists (Scheier & Carver, 2009).

Table 2 : Summary of Stepwise Regression Analysis, Dependent Variable: Depression

Variables	*R*	R^2	*df*	*F*
Self-efficacy	.780	.608	1/90	139.60**
Hope	.807	.651	2/89	83.17**
Resilience	.832	.701	3/88	68.81**

** $p < 0.01$

In order to ascertain the extent to which weighted combination of dimensions of psychological capital (Hope, self-efficacy, resilience and optimism) accounts differences in depression and adjustment, stepwise multiple regression analysis was worked out. The stepwise multiple analysis was preferred over standard one to find a subset of those independent variables which are useful in predicting the dependent variable, by eliminating those which do not contribute additional to that already predicted by the variables in the equation. Table 2 shows the result of stepwise regression analysis for the dependent variable depression. Results indicated that three significant predictors of depression emerged with an overall multiple R of .832 which is significant at .001 probability level. Self-efficacy being the most effective predictor of depression entered the equation at step one. The multiple R for this variable equals to .78, which suggests that self-efficacy accounts for approximately 61% of the variance ($R^2=.608$). The F being 139.60 is highly significant ($p<.001$). It indicates that self-efficacy is a very strong predictor of depression in the present sample. Hope appears to be another potent predictor that has been entered at step two. Multiple R increased to .651 with the entry of hope in the equation after self-efficacy. The F being 83.17 (df = 2/89) is significant at .001 probability level. It means that self-efficacy and hope jointly account for approximately 65% of the variance ($R^2=.651$) in depression. The last variable

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that took entry in the regression equation is Resilience. With the entry of this variable the multiple R increased to .832, indicating that these three variables accounted 70% variance in depression. The F ratio at this step equals to 68.81 (df = 3/88) is significant at .001 probability level.

It suggests that the individuals who possess self-efficacy, hope and resilience are less likely to be affected with depression. People with high score on these dimensions display higher level of confidence, ability to overcome adverse situations, distress and depressive symptoms. People with Psychological Capital use their strength to help them enjoy life as it is rather than be disappointed by the ideas that life can be even better sometime in the future. A research study by Zhang and Cai (2012) confirms the moderating effect of self-efficacy between maladaptive perfectionism and depression in Chinese university students. A recent study has also shown higher levels of resilience were associated with lower levels of self-reported depression (Spies and Seedat, 2014).

Table 3: Summary of Stepwise Regression Analysis, Dependent Variable: Adustment

Variables	*R*	*R^2*	*Df*	*F*
Resilience	.896	.802	1/90	364.52**
Hope	.917	.841	2/89	236.00**

** $p < 0.01$

Table 3 shows the result of stepwise regression analysis for the dependent variable adjustment. Results indicated that two significant predictors of adjustment emerged with an overall multiple R of .841 which is significant at .001 probability level. Resilience being the most potent predictor of adjustment enterd the equation at step one. The multiple R for this variable equals to .896, which suggests that resilience accounts for approximately 80% of the variance (R^2=.802). The F being 364.52 is highly significant (p<.001). It indicates that resilience is a very strong predictor of adjustment in the selected sample. Hope appears to be another potent predictor that has been entered at step two. Multiple R increased to .917 with the entry of hope in the equation after resilience. The F being 236.00 (df = 2/89) is significant at .001 probability level. It means that resilience and hope jointly account for approximately 84% of the variance (R^2=.841) in adjustment.

The present research suggest that people with high levels of resilience and hope, dimensions of psychological capital, are well adjusted in their life as they can handle daliy life hassles and feel easy in taking decision. It also suggests that the individuals having psychological capital are strong people who realize the importance of having a good social support system and are able to surround themselves with supportive friends and family. They look at the bright side of a situation and believe in their own ability to address and overcome any problem. Several studies are in tune with the results of the present research. Seligman and

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Csikszentmihalyi (2000) suggest that human strengths such as courage, hope, and optimism, can act as buffers against psychological disorders (Peterson, 2000; Farran, Herth, & Popovich, 1995). Hope demonstrated positive impact on athletic, academic, health outcomes, and psychological adjustment in clinical applications, hope has also been found to lead to higher work performance outcomes across a number of independent studies (Luthans, Avolio, Walumbwa, & Li, 2005; Peterson & Luthans, 2003; Youssef & Luthans, 2007).

LIMITATIONS AND IMPLICATION FOR FURTHER RESEARCH

Although the current study is in line with the results of other research studies, a series of limitations must be noted. Firstly, one must note the small number of participants that were included in the study. Despite this fact, the study proved the hypotheses that psychological capital plays a vital role to aid adjustment and combatting depressive symptoms. Furthermore, the subjects for the study are from specific field *i.e.* health care professionals so it might be difficult to generalize the results on all the population.

Despite these limitations, the study also bears potentially important clinical implications. The results highlight the presence to a greater extent of hope, self-efficacy, resilience and optimism with reduced depressive symptoms and increased adjustment among health care professionals. The intervention on these variables of psychological capital through support, counselling and developing such programs can lead to reduce depression and increase adjustment. Future researches are required to further strengthen and generalize the findings and also to find out the role of any other mediating variables that may play vital role.

CONCLUSION

The present study reveals that psychological capital (PsyCap) is a positive state-like capacity which plays important role in assistance of adjustment and it can be very well used to overcome depression. People with high level of hope, resilience, self-efficacy and optimism are more achievement oriented in any task in their life, feel easy in taking decisions, and take better solution in handling life problems.

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EFFECT OF GENERAL HEALTH STATUS AND SOCIAL SUPPORT ON PSYCHOLOGICAL WELL-BEING AMONG THE KASHMIRI MIGRANTS

Dharvinder Singh, Karuna Gupta**, Arti Bakhshi*** and Ruby Charak*****

ABSTRACT

Forced Migration of such kinds can lead to many physical and psychological problems acting as a barrier for the migrants to adjust adequately. In the year 1989-90 due to rising terrorist activities and associated atrocities in Kashmir a mass exodus of Kashmiri Hindus took place on search for safer pastures. Till date many continue to live in migrant camps in and around Jammu. The present study aims to gauge the association between General Health Status, social support and psychological well being in Kashmiri migrants currently residing in migrant camps. A purposive sample of 151 Kashmiri migrants (80 males and 71 females) was collected from two migrant camps (Purkhoo and Muthi), with age ranging from 20-75 years. Significant negative association was found between general health status and psychological well-being and significant positive association was found between social support and psychological well-being.

Keywords: Kashmiri Migrants, General Health Status, Social Support, Psychological Wellbeing.

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INTRODUCTION

Migration is a universal phenomenon in human society and involves the movement of individuals/ communities from a place of origin to a place of destination. Migration can be voluntary and involuntary differing in the element of volition. Throughout human history involuntary migration based on political or religious persecution, (*i.e.* conflict induced displacement) has taken place.

One such kind of migration is Forced Migration which exists when a person is moved against their will or when the move is initiated because of external forces (natural disaster or civil wars). Migration of such kind can lead to many physical and psychological problems like symptoms of phobia, low self-esteem, anxiety, depression, sleep disturbances and poor health etc., acting as a barrier for the migrants to adjust adequately. Several studies show that forced migration leads to various kinds of mental disorders (Bhugra & Jones, 2001; Cochrane & Bal, 1987; Gulsen, Knipscheer, & Kleber, 2010; Selten & Sijben, 1994).

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 1946). The prevalence of mental health problems in migrants is influenced by the nature of migration experience, in terms of adversity experienced before, during, and after resettlement. Specific challenges in mental health include communication difficulties because of language and cultural differences, the effect of cultural shaping of symptoms and illness behavior of diagnosis, coping and treatment.

A study conducted in the Netherlands indicated that physical as well as mental health problems are highly prevalent among refugees and asylum seekers (Gerritsen, Bramsen, Devillé, Willigen, Hovens, & Ploeg, 2006). Roberts, Ocaka, Browne, Oyok and Sondorp (2008) stated in their study that Internally Displayed Persons (IDPs) report high levels of psychiatric morbidity which includes PTSD and depression. A study by Banal, Thappa, Shah, Hussain, Chowhan, Kaur, Bharti, M., Thappa (2010) reported higher psychiatric morbidity in Kashmiri migrants residing in Jammu when compared with a control group on major depression, post traumatic stress disorder and generalized anxiety disorder.

Well-being is a dynamic concept that includes subjective, social, and psychological dimensions as well as health-related behaviors. A tool often used to assess psychological well-being is the Ryff Scales of Psychological Well-Being (Ryff, 1989) which is a theoretically grounded instrument that specifically focuses on measuring multiple facets of psychological well-being. These facets include self-acceptance, the establishment of quality ties to other, a sense of autonomy in thought and action, the ability to manage complex environments to suit personal needs and values, the pursuit of meaningful goals and a sense of purpose in life, continued growth and development as a person (*Seifert, 2005)*.

Hamdan-Mansour and Marmash (2007) conducted a study on Psychological well-being and general health of Jordanian university students and concluded that

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Psychological well-being subscales were negatively correlated with reports of physical pain, chronic infections, and previous or current treatment of a psychiatric illness. A study conducted by Hengudomsub, Koedbangkham, and Kangchai (2007) found that better physical health was linked to higher levels of psychological well-being.

Albrecht and Adelman (1987) defined social support as "verbal and nonverbal communication between recipients and providers that reduces uncertainty about the situation, the self, the other, or the relationship, and functions to enhance a perception of personal control in one's life experience". Social support is a basic determinant of health, as vital to maintaining well-being as food, shelter, income, and access to health care and social opportunities (Simich, Beiser, Stewart, & Mwakarimba, 2005).

Migration can be considered a non-normative critical life event. As with other critical life events (such as accidents, losses, divorce, or illness), the corresponding psychological crises may have a tremendous impact on an individual's personality, psychosocial functioning, and health. Not only is it necessary to cope with daily hassles that arise after migration, such as with crowded living conditions in camps or shelters upon arrival, but also with the threat of long-term unemployment and the need to establish a new social network. Thus, migrants are not only disadvantaged by greater demands than previously, but also by increased individual vulnerability to stress because of their loss of vocational and social ties. The availability of social support to migrants may result in lower depression rates, lower level of stress hormones, and better general mental health and well being (Knoll & Schwarzer, 2002).

Garcýìa, Ramirez and Jariego (2002) analyzed social support as predictors of psychological well-being in Moroccan and Peruvian immigrant women in Spain and concluded that psychlogical well-being was significantly predicted by social support. Neville and Alpass (2002) also found that men who were satisfied with the social support they experienced higher levels of psychological well-being. Skok, Harvey, and Reddihough (2006) reported that perceived social support significantly predicted well-being among mothers of school-aged children with cerebral palsy. Wong, Yoo and Stewart (2007) conducted a study on social support and psychological well-being in older Chinese and Korean immigrants and concluded that more social support significantly contributed to better overall psychological well-being. Yoon and Lee (2007) investigated the impact of social support on psychological well-being among older adults in rural areas and found a significant association between dimension of social support and psychological well-being.

Bada, Balogun, and Adejuwon (2014) found that social support significantly predicted psychological well being in spouses of male prisoners in Nigeria. In an attempt to examine effects of social perceived social support on the psychological well-being of adolescents in Ghana, Glozah (2013) reported that

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perceived support protected individuals from life stress which in turn enhanced psychological well-being.

Kashmir a region in the state of Jammu and Kashmir, India is known for its natural beauty for centuries. In 1989-90 due to militancy there was politico-ethnic war between the two major communities residing there. It resulted in migration of about more than 55,000 families which mostly comprised of minority Kashmiri Hindus. These people migrate to Jammu and other parts of the country in search for safer pastures. These migrants become homeless and lost all their land and other ancestral property. According to estimates by the Government of India, 56246 families have migrated from the valley since 1990. Of these, 34305 families stay in Jammu, 19338 families in Delhi and 2603 in other states. While majority of the migrants are living under their own arrangements and in hired accommodation, 4778 families in Jammu and 238 families in Delhi are/were staying in relief camps. Each accommodation in the relief camp is of the size 10'x 10' room with a family of 5-6 members residing in this multipurpose room which has resulted in deterioration in living standards and privacy for the members is totally lacking. As they migrated from their homeland to other place it became difficult for them to adjust in the new and totally different environment as well as culture (Charak & Bhat, 2011). The trauma of forced exodus and the exposure to an alien and hostile environment are further compounded by the problems of acclimatization, lack of basic amenities like drinking water, drainage and sewerage, absence of proper lavatory facilities, poor housing, overcrowding, extremes of climate, lack of healthcare facilities and unemployment. All these have led to many psychological and behavioral disturbances in them (Banal, Thappa, Shah, Hussain, Chowhan, Kaur, Bharti, Thappa 2010).

With this background in mind, authors hypothesized that in the present study (i) General Health Status would have significant and unique negative association with Psychological Well-Being in Kashmiri migrants, and (ii) Social support would have significant and unique positive association with Psychological Well-Being in Kashmiri migrants.

METHOD

Sample

The study was conducted on Kashmiri Migrants residing in two camps in Jammu (Purkhoo and Muthi camp). A total of 151 participants (Male = 80 and female = 71) were collected using purposive sampling technique. The subjects were in the age group of 20-75yrs (M =41.5, SD = 14.1).

Tools Used

The General Health Questionnaire-12 (GHQ-12). It is a 12-item questionnaire and the Hindi version was developed by Gautam, Nijhawan, & Kamal (1987). It is the modification of General health questionnaire given by Goldberg

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(1972). The scale measures the psychological morbidity and general health status of an individual. Each item is noted on a 4-point scale and further if the individual opts for any of the first two options, it is rated as 0 and if the individual opts for 3 or the 4 options, it is rated as 1. A score of 2 or less indicates that the subject is free from any psychiatric illness. Higher scores indicate higher psychopathology. The split half reliability of the Hindi version is 0.78 for patient population and 0.73 for normal subjects.

The Social Support Questionnaire. It is a self-report measure and consists of 18 items that assesses perceived social support in an individual - It was developed by Pollack and Harris (1983) and was adapted and translated in Hindi by Nehra and Kulhara (1987). The total score ranges from 18-72. Higher scores indicate more perceived social support. It is a reliable and valid questionnaire. The test–retest reliability of the modified version is very high ($r = 0.91, p < 0.01$). Concurrent validity has been found to be significant.

Psychological Well-Being Scale. It is a self-report measure and consists of 18 items (Ryff & Keyes, 1995) developed from its predecessor with 84-items (Ryff, 1989). The items are divided into 6 dimensions that measure autonomy, environmental mastery, personal growth, positive relations with others, and purpose in life and self- acceptance. The internal consistency of the six scales ranges from 0.33 to 0.52.

Procedure: Data was collected individually by regular visits to the migrant camps. Consent was taken from Relief Commissioner's Office for carrying out the research in the migrant camps. Verbal consent was taken from each participant. Participants were told that their results would be kept confidential.

RESULTS AND DISCUSSION

Mean and standard deviations of study variables are presented in Table 1. To test the hypotheses, authors performed a hierarchical regression analysis for the outcome or criterion variable *i.e.* psychological well-being. The aim was to determine if the hypothesized variables added any unique contribution in the prediction of the psychological well-being above and beyond the other variables. The standardized coefficients and adjusted R^2 are reported in Table 2 and 3, respectively.

Table 1: Means and Standard deviations of study variables

Variables	*Mean*	*S.D*
PWB	76.70	9.94
GHS	5.39	2.91
SS	47.47	6.99

Note: PWB = Psychological Well-being. GHS = General Health Status. SS = Social Support.

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As indicated in Table 2, age and gender account for 1.3% of the variance in Psychological Well-being in the present study. Further, it increases to 21.2% with the addition of General Health Status. For the final model (cf. step 3 in Table 2) the value increases to 26.1%. More specifically, as shown in Table 3 General Health Status has a significant negative association with Psychological Well-being ($\hat{a}$ = -0.45, $p < 0.01$) supporting the first hypothesis.

Table 2: Hierarchical Regression Depicting the Association between Age, Gender, General Health Status and Social Support, and the Psychological Wellbeing among Kashmiri Migrants.

Steps	*R*	R^2	*Adjusted* R^2	"R^2
1	0.112	0.013	-0.001	0.013*
2	0.461	0.212	0.196	0.200**
3	0.511	0.261	0.241	0.049

Note: $N = 151$. ** $p < 0.01$.

Table 3: Stepwise Hierarchical Regression with Unstandardized (B) and standardized regression coefficients ( )

Model	*B*	*SE*	*Standarized Coefficient* ( )
Step 1			
	79.97	3.81	
Age	-0.08	0.06	-0.11
Gender	0.003	1.65	0.000
Step 2			
	85.24	3.52	
Age	-0.03	0.05	
Gender	0.69	1.48	0.04
General health status	-1.55	0.25	-0.45**
Step 3			
	63.90	7.65	
Age	-0.05	0.05	0.07
Gender	1.54	1.47	0.07
General health status	-1.05	0.29	-0.31
Social support	0.38	0.12	0.27**

Note. $N = 151$.

** $p < 0.01$.

Previously, Hamdan-Mansour and Marmash (2007) also concluded that Psychological well-being subscales were negatively correlated with reports of physical pain, chronic infections, and previous or current treatment of a psychiatric

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illness. Similarly, Hengudomsub, Koedbangkham, and Kangchai (2007) found that better physical health was linked to higher level of psychological well-being. Taken together, the studies indicate that well-being is associated with physical health. Thus, the present result are in line with previous research findings.

Table 3 indicates that social support has significant positive association with Psychological Well-being ($\hat{a} = 0.270, p < 0.01$), providing support for hypothesis 2. Garcia, Ramirez and Jariego (2002) reported that psychlogical well-being was significantly predicted by social support in Morrocan and Peruvian immigrant women. Wong, Yoo, and Stewart (2007) concluded that more social support significantly contributed to better overall psychological well-being. Yoon and Lee (2007) also found a significant association between dimension of social support and psychological well-being among older adults in low-income Korean immigrants residing in the US. The present finding corroborates existing literature which states that social support is positively associated with Psychological well-being.

The present findings should be interpreted with the following limitations in mind. First, the sample size of the present study was relatively small. Data was collected from migrants residing in camps located in Jammu. Hence, it is not representative of the whole population of migrants. Second though, the reliability and validity of the scales used are adequate, however the sole reliance on self reports is a methodological limitation. Nonetheless, the current study is among the first to assess the association between general health status and social support with psychological well-being among Kashmiri migrants in Jammu. The study results have interventional implications. Social support can be used as a protective factor for the well-being of the population which in turn would lead to decrease in any mental health problems. More resources should be directed towards building support systems within and from outside the community.

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EFFECT OF SEX, FAMILY TYPE AND CHD ON STRESS AND SOCIAL SUPPORT: AN EMPIRICAL STUDY

*Neeraj Chaudhary**

ABSTRACT

CHD is one of the largest health care problems in the developing countries in terms of prevalence cost and the physical and psychological burden it places on individual living with illness. So the present study was aimed to investigate the effect of sex, family type and CHD on stress and social support. The final sample was consisted of 200 (100 CHD patient and 100 normal subjects) subjects with the help of stratified random sampling. The coronary heart disease patients were taken from the different hospitals of western U.P. (Baghpat, Baraut, Shamli and M.Nagar). The normal subjects were freely drawn from general population of western U.P. A 2×2×2 factorial design was employed in the present study The stress scale constructed and standardized by Singh was used. The PGI social support questionnaire by Nehra, Kulhera and Verma was used. Using descriptive methods of research the result of analysis of variance revealed that there is a significant main effect of CHD and family structure on stress and social support.

Keywords : CHD, Family Structure, Social Support, Stress and Gender.

INTRODUCTION

Coronary heart disease (CHD) is the largest single cause of death and disability in the industrialized world. The modern health care team has an important function in the diagnosis and management of this disease. Therefore the assessment and correction of the risk factors by life style and medical means is an enormous challenge to health care professionals today.

There is no disease without emotional, behavioural and social components both in cause and in effect, where stress, is a part of life and everyone experiences

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stress in day to day life. Persons with high stress and low-social support are more prone to heart disease. Stress increases blood pressure, heart rate, increases plasma cholesterol levels that has adverse effects on coagulation and fibrolysis Johnston, (1993).

Krantz & McCeney (2002) reported that hostility, depression and cardiovascular reactivity to stress are heavily implicated in the development CHD. Lumbardo & Carreno (1987) acute stress, negative emotions and sudden bursts of activity can precipitate sudden clinical events, such as a heart attack.

Social support can help heart patients recover, reducing distress and improving cardiac symptoms. Elizur & Hirsh (1999) found that heart patients without a spouse or a confidant were twice as likely to die within 6 months of their first heart attack, compared with those patients who were married or had social support.

Investigators have considered the psychosocial and health related impact of family structure on stress. For example the family milieu influences stress and health practices. Billing and Moss (1982b) the relationship between family support and functioning was stronger among women than men.

After reviewing, the importance of psychosocial factors involved in the recovery of CHD. Hence the present study was carried out to assess the psychosocial risk factors contributing to CHD. Based on the assessment the investigator intends to design an intervention plan for reversing heart disease, which would equip patients with the knowledge, motivation, positive attitude and coping strategies they need to make health enhancing behaviour change.

Objectives

1. To find out the effect of Gender, CHD and Family structure on stress and social support.
2. To find out the interaction effect between Gender × CHD, CHD × Family Structure, Gender × Family Structure and also Gender × CHD × Family Structure on Stress and Social Support.

Hypotheses

1. There will be no significant effect of Gender, CHD and Family structure on stress and social support.
2. There will be no significant interaction effect of Gender × CHD, CHD × Family Structure, Gender × Family Structure and also Gender × CHD × Family Structure on Stress and Social Support.

METHOD

Sample

The present study was conducted on a sample of 200 (100 coronary heart disease patients and 100 normal subjects) subjects with the help of stratified

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random sampling. The coronary heart disease patients were taken from the different hospitals of western U.P. (Baraut, Baghpat, Shamli, M.Nagar). The normal subjects were freely drawn from general population of western U.P. (Baraut, Baghpat, Shamli, M.Nagar). All the normal subjects reported themselves to be in a good health and were free from any chronic disease and physical ailment.

Tools

Stress Scale: Stress scale constructed and standarized by Singh was used on the selected sample. The scale has 40 items to be respond by the subjects with 'always' (allot 2 marks) "Sometimes" (allot 1 mark) and "Never" (allot 0 mark). The higher the scores indicate the severe state of stress. The split-half reliability for this scale was 0.82. The test-retest reliability for this scale was 0.79. The validity coefficient was computed with Bist Battery of stress scale and correlation was found 0.61.

PGI Social Support Questionnaires : PGI Social support questionnaires constructed and standarized by Nehra, Kulhera and Verma was used on the selected sample. The scale consists 18 items. Item No. 2, 4, 8, 9, 11, 12 and 18 are positively worded and scored as such but item no. 1, 3, 5, 6, 7, 10, 13, 14, 15, 16 and 17 are negative items and have to be scored in the reverse order. The total score indicates the amount of social support perceived by the individual. Higher score indicates more perceived social support. The test-retest reliability for this scale was 0.74. The concurrent validity of the scale appeared to be fairly high.

Procedure

First of all the purpose of the study was explained to the subjects which helped to get consent and established a proper rapport. After establishing rapport the tools were administrated on the selected sample. The scoring of the scales was done as per procedure given in the manuals of each scale. For data processing master sheet was prepared. In order to arrive at some conclusions on the basis of the present study mean and analysis of variance have been used.

RESULTS AND DISCUSSION

Results of 2x2x2 analysis of variance for stress scores are summarized in Table 1. A look at the Table 1 indicate that 'F' value for the first independent variable gender is (df 1, 192) = 0.69 which is not significant. The nonsignificant 'F' value leads to conclude that gender is not a significant factor for stress. It may be because of fact that financial responsibilities of the family, job related activities and other familial and social responsibilities, on account all these reasons men may inhibit their emotions. On the other hand relationship with family is stronger for females and they become more sensitive to family problems. Smith, Gallo, Goble, Ngu, & Stark (1998) found that their is no statistical difference between male and female with regard to their linking of stress. In addition man

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show greater reactivity than women do when their competence is challenged and women show greater reactivity than man when their relationship or love is challenged.

Table 1: Summary of Analysis of variance for stress

Sources of Variation	*SS*	*df*	*MS*	*F*
A (Gender)	42.32	1	42.32	0.69
B (CHD)	302.58	1	302.58	4.96*
C (Structure of Family)	800	1	800	13.12**
AB	2	1	2	0.03
BC	50	1	50	0.82
AC	0.02	1	0.02	0.003
ABC	21.78	1	21.78	0.357
Within Treatment (error)	11705.68	192	60.697	
Total	12924.38	199		

*Denotes significant at .05 level of confidence.

**Denotes significant at .01 level of confidence.

Table 2: Number, Total and Mean scores of stress for Gender, CHD and Family Structure

I.V.	*Levels*	*Number*	*Total*	*Mean*
A (Gender)	Male (A_1)	100	3687	36.87
	Female (A_2)	100	3595	35.95
B (CHD)	CHD (B_1)	100	3764	37.64
	Non CHD (B_2)	100	3518	35.18
C (Structure of Family)	Nuclear Family (C_1)	100	3841	38.41
	Joint Family (C_2)	100	3441	34.41

Table 1 shows that the 'F' value for factor B (CHD) is (df, 1.192) = 4.96 P<.05. Thus 'F' value leads to conclude that CHD is an influencing factor for stress. Stress produces physiological changes in the body that can effect health. The obtained mean scores in Table 2 revealed that the degree of stress among heart patients is relatively more than that of normal subjects. Peter et. al. (1998) explored the effect of chronic psychological stressor and life changes events on CHD and found significant effect of stress on CHD and also found significant effect of psychological stressors and life changes events on CHD.

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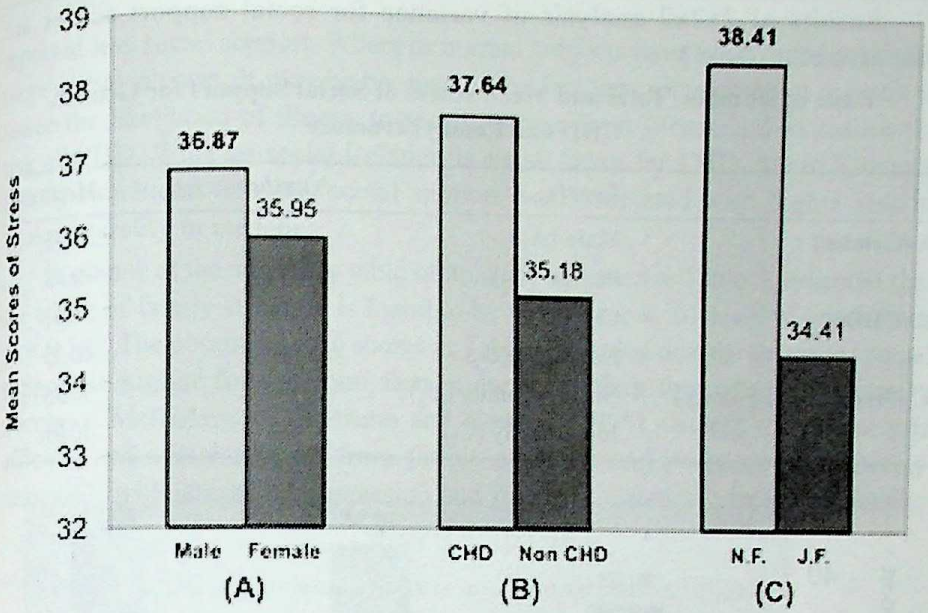

Figure 1: Showing the Mean scroes of Stress for Gender, CHD & Family Structure

Table 3: Summary of Analysis of variance for social support

Sources of Variation	*SS*	*df*	*MS*	*F*
A (Gender)	220.5	1	220.5	2.32
B (CHD)	699.38	1	699.38	7.37**
C (Structure of Family)	907.38	1	907.38	9.56**
AB	5.12	1	5.12	0.053
BC	18	1	18	0.189
AC	2	1	2	0.021
ABC	33.26	1	33.26	0.3505
Within Treatment (error)	18220.28	192	94.89	
Total	20105.92	199		

****Denotes significant at .01 level of confidence.**

By looking at Table 1 it appears that the 'F' value for family structure is (df, 1, 192) = 13.12 P<.01. Thus 'F' value leads to conclude that family structure is an influencing factor for stress. That means m Table 2 show that the joint family member reported less stress in comparison to the nuclear family members. Gore & Aseltine (1995) found that family relationship compared to other social ties, often involve greater commitment and personal knowledge of the individual, the support, that is generalized as well as specific, reduces the risk of stress.

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Results of 2x2x2 analysis of variance for social support scores are summarized in Table 3:

Table 4: Number, Total and Mean scores of Social Support for Gender, CHD and Family Structure

I.V.	*Levels*	*Number*	*Mean*
A (Gender)	Male (A_1)	100	37.43
	Female (A_2)	100	39.53
B (CHD)	CHD (B_1)	100	36.61
	Non CHD (B_2)	100	40.35
C (Structure of Family)	Nuclear Family (C_1)	100	36.35
	Joint Family (C_2)	100	40.61

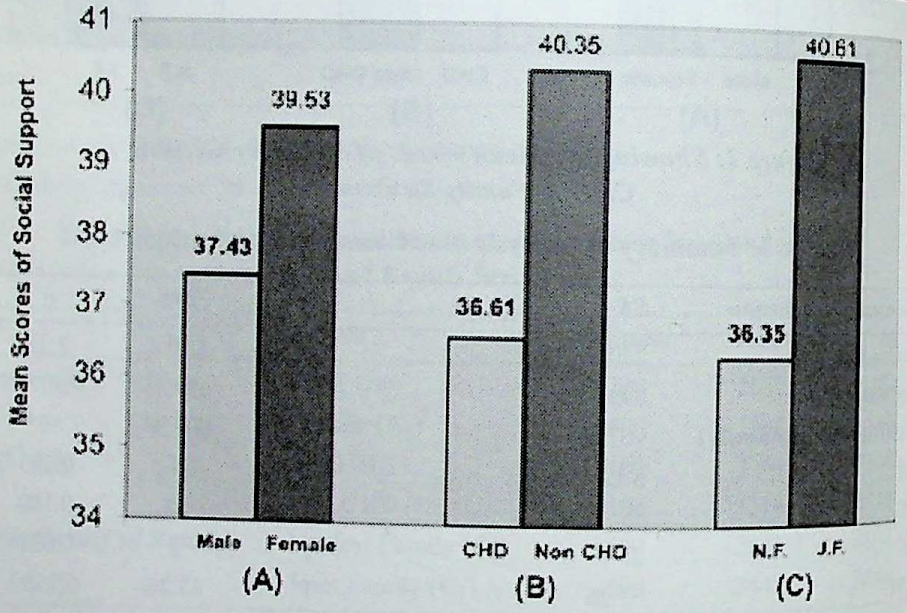

Figure 2: Showing the Mean scores of Social Support for Gender, CHD & Family Structure

A look at the summary table of analysis of variance (Table 3) indicates that 'F' value for factor A (Gender) (df, 1, 192) = 2.32 is nonsignificant. In a study Knoll and Schwarzer (2009) found that social support increased for both sexes during the follow up period. Men and women who received the most social support also had the low levels of negative affect and indicated strikingly low levels of health complaints.

A look at the summary Table 3 reveals that 'F' value for factor B (CHD) is (df, 1, 192) = 7.37 P<.01. It indicates that CHD has a strong and significant effect on social support. The mean scores in Table 4 reveal that CHD patients

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reported less social support. Where as normal subjects have been found reporting more social support. It may be because of the fact that social support appears to lower the likelihood of illness, to speed recover from illness and to reduce the risk of CHD. Whereas social isolation is a risk factor for CHD. Iehiro Kawachi (2008) concluded that low social support was associated with higher risk of stroke mortality in men.

A glance at the summary table of analysis of variance Table 3 indicated that the effect of family structure is found to be significant at .01 level of confidence (F = 9.56). The obtained mean scores in Table 4 revealed that the degree of social support is higher for the joint family members than that of nuclear family members. McFarlance, Bellissimo and Norman (1995) resulted that social self efficacy and social support from family structure and peers were negatively associated with stress and depression and therefore, acted as protective factors.

CONCLUSIONS

The main findings related to stress are summarized as follows:

(1) Gender has not been found to play an important role on stress.

(2) It can be concluded that CHD patients have perceived significantly higher stress where as non CHD have been found perceiving less stress.

(3) The present study revealed that the joint family member reported less stress in comparison to the members of nuclear family. It may be because of the fact that joint family has its own unique environment. To be clearer, better emotional tone better interactions among family members result into less stress.

(4) Interaction effect of Gender × CHD, CHD × Family Structure, Gender × Family Structure and also Gender × CHD × Family Structure on stress have not found to be significant at any acceptable level of confidence.

The main findings related to social support are summarized as follows :-

(1) Difference between male and female was not found to be significant at any acceptable level of confidence thus Gender has not been found a significant factor of social support.

(2) It was also found that CHD patients reported less social support whereas non CHD have been found to have more social support.

(3) The study revealed that joint family structure played a significant role for seeking social support, thus family members of joint family were the major source of social support.

(4) Interaction effect of Gender × CHD, CHD × Family Structure, Gender × Family Structure and also Gender × CHD × Family Structure on social support have not found to be significant at acceptable level of confidence.

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Significance of the Research

A research is useless if it does not bear any psychological, educational or social significance. The findings of the research done should enrich the knowledge of all persons concerned with the problem taken in the research so that they may be benefited from it.

Stress is not a result of an individual factor rather is the outcome of environmental factors like families, social and technological uncertainty. Then stress become distress when for any reason a person begins to feel inadequate, alone desperate and disappointed, insufficient support, more conflicted family environment are risk factors for stress which can be responsible for deteriorating situations in society day by day. The presence of some supportive, loving and conforming model is an asset that may reduce much of the impact of having inadequate pattern.

The findings of the present study also indicate that it is essential to work together to develop family coping skill and strengthen family bonds. They should set priorities and goals as a family and clarify, family members roles and responsibilities.

In addition, social support is equally important as various self-help activities needed to manage the stress. Social support works as strong buffer against the stressors at work and life. Family members, friends and relatives are the major source of social support. Friendship developed especially at work place can be extremely valuable. We know that generally the work place creates a greater proportion of stress in comparison to the home environment but the change in the society combine to put the pressure into the family life. To cope and manage these pressures the family must work as a unit with effective communication to develop the foundation for an atmosphere of trust and openness. It is advised that family members should speak clearly with each other and checkout that right meaning is conveyed or not.

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THE INTERFACE BETWEEN DIABETES MELLITUS AND MENTAL HEALTH: ISSUES AND CHALLENGES

Ranjan Pattnaik and Rabindra Kumar Pradhan***

ABSTRACT

In recent times the universal phenomenon of ageing, rapid unplanned urbanization and unhealthy lifestyles like tobacco consumption, poor dietary habits, and sedentary life pattern are spreading fast. An outcome of this is rise of many Non Communicable Diseases. One such is prevalence of diabetes in population. The chronic nature of the disease has implications on the behavioral pattern of the affected person. An altered lifestyle pattern helps in effective management of the disease. However, while few people can cope with this altered pattern of life, majority fail to do so. Literature across the world confirms that over time they develop certain psychological problems as compared to people without diabetes. Psychological problems include an elevated rate of depression and anxiety disorders. These distresses hinder persons' ability to care for their diabetes (self-care) leading to poor adherence to medication. A poor health outcome is triggered, characterized by high incidences of morbidity and loss of productivity. This takes a heavy toll on the health care cost which in turn restricts proper self-care. Thus, ill health perpetuates. A region-specific intervention with a patient-focused approach is pertinent for managing mental disorders of diabetic patients. This includes psychosocial support throughout the treatment regimen to facilitate patient for self-care. In Indian context, diabetes and mental disorders are separately dealt, thereby creating the need to seek an integrated approach. This paper tries to highlight some of the issues worth considering while attempting integration and challenges involved in diabetic management.

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Keywords: Diabetes mellitus, Adherence to treatment, Mental health, Psychosocial support, Health care system.

INTRODUCTION

In recent times, Non-communicable diseases (NCDs) are the greatest barrier to human development. Across the globe almost 63% of all deaths occur due to NCDs such as cardiovascular diseases (CVDs), chronic respiratory diseases, cancers and diabetes. In 2008, according to World Health Organization (WHO, 2011) approximately four out of five NCD deaths have occurred in low and middle income countries. For instance a research finding has revealed that India bears 42% of all its deaths due to NCDs. It causes significant morbidity and mortality both in urban and rural population, with considerable loss in potentially productive years (aged 35 - 64 years) of life. Although, much of the attention has been paid to management of communicable diseases, maternal and perinatal conditions and nutritional deficiencies, these account for only 40% of Disability Adjusted Life Years (DALYs) worldwide, NCDs constitute 48% of DALYs (WHO, 2005). In India, 2.263 million DALYs were lost during 2004. NCD-related diseases accounts to one-fourth of all deaths among people below the age of sixty years (WHO, 2011). This fact particularly bothers us because it includes productive population. By prolonging morbidity and disability as a result of these chronic ailments there is a tremendous decline of workplace productivity and social participation. The Global economic burden of Non-communicable diseases has published a report in 2011 jointly with World Economic forum and Harvard School of Public Health, stated that diabetes management lays huge burden over health system and family resource world wide.

Prevalence of NCDs is strongly associated with global trend like ageing, rapid unplanned urbanization and unhealthy lifestyles like tobacco consumption, poor dietary habits, sedentary life pattern, stress, etc. (National Program for Prevention and Control of Cancer, Diabetes, Cardio - Vascular Disease and Stroke - Operational Guidelines). Considering the fact that a large young population is the bearers of NCDs, new programmes can be designed and implemented to change the behavior among them. Moreover, a cost effective models of care-giving need to be devised so as to reduce the burden on family members who are usually informal care givers (Global economic burden of NCDs, 2011).

WHO for the first time has recorded data on people with raised blood glucose levels in its *World health statistics-2012* report. The report signifies that one in six adults is obese, one in ten is diabetic and one in three has raised blood pressure (The World Health Statistics Report, 2012). Globally, the people living with diabetes are estimated as 371 million with a prevalence rate of 8.3%, while a 50% case goes undiagnosed. The number of people living with diabetes is increasing in every country. At the same time, half of the people living with diabetes don't know

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about their status. Every four out of five people with diabetes live in low and middle income countries. Approximately 4.8 million people died globally from diabetes, among those half were under the age of 60. The global health expenditure incurred due to diabetes in 2012 is 471 billion USD (Diabetes Atlas, 2012).

India leads the world with largest number of diabetic subjects earning the dubious distinction of being termed the "diabetes capital of the world" (Mohan, & Alberti, 2007). The Diabetes Atlas published by the International Diabetes Federation (IDF), estimates that 40 million people living in India are diabetic. By 2025, this figure is likely to escalate to 70 million. Implicitly, at global level an Indian would figure in every five diabetic person (Sicree, Shaw, & Zimmet, 2006). Contrastingly, in the year 2011 alarming figures were revealed out in the ICMR-INDIAB study that 62.4 million people are living with diabetes and 77.2 million people are in the pre-diabetes stage in India (Anjana, et.al, 2011). Genetic predisposition of diabetes is largely exacerbated by un-healthy life style behavior linked with rapid urbanization and globalization in India (Mohan, et.al., 2007). The type 2 diabetes occurs at least a decade earlier in Indian population as compared to their European counterparts (Mohan, et.al., 1997). It signifies that, there would be a serious loss in productivity level of our country's youth in next one to two decades (Nakagami, et.al., 2003; Sicree, et.al., 2006). Similarly, India figures to be one of the countries possessing the highest economic burden in the world due to its large pool of diabetic patients. Factually, the burden is due to micro and macrovascular complications of the disease which ultimately increases the mortality and morbidity rates (Mohan, et.al., 2006). Hence, due to afford said reasons diabetes has been selected as one of the study subject for this paper.

Interaction of Diabetes Mellitus and Mental Health

Diabetes Mellitus is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. American Diabetes Association, (2004) has stated *diabetes mellitus* as a "chronic hyperglycemia of diabetes which is associated with long-term damage, dysfunction, and failure of various organs, especially the eyes, kidneys, nerves, heart, and blood vessels".

Majority of diabetes cases are grouped under two categories; Type 1 and Type 2 diabetes. The former is mainly caused due to absolute deficiency of insulin secretion and the later originates by an inadequate compensatory insulin secretory response combined with resistance to insulin action. Type 2 diabetes may remain un-diagnosed for a longer period of time while possessing a high glucose level adequate to cause various pathological and functional changes in the target tissues. It is achievable to establish the diagnosis during the asymptomatic phase through calculation of plasma glucose level at fasting stage and after an oral glucose load (American Diabetes Association, 2004).

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Diabetes Mellitus is a complex disease among other NCDs as it largely influences the behavior of the person living with this illness. Although some diabetic people show encouraging coping capabilities, majority of them experience various psychological problems such as anxiety, depression, needle phobia, panic regarding self- injecting of insulin and eating disorders which results in decreased Quality of Life (QoL) as compared to the general population. Estimates suggest that approximately forty one percent of diabetic people experience reduced psychological well-being with constant increase in depression and anxiety disorders rates. For instance, as compared to controls the depression rate is double among diabetic people. This dangerous mix of diabetes and psychological disorders impose a great threat for the people living with diabetes as it negatively affects the level of self-care which ultimately leads to poor diabetes management and co-morbidities.

In the due course, their health condition is worsened by difficulty in adherence to recommended medication and therapies, leading to poor blood glucose level (hyperglycaemia/hypoglycaemia) and co-morbidities. Finally, it leads to increased healthcare costs, diminished productivity and raised mortality rate. The 'costs' amplifies for diabetes case associated with any kind of psychological disorders. If psychological barriers are not addressed through requisite treatment and counseling services, only education and sharing of information may not lead to change in behavior. Similarly, an individual's health beliefs should be taken into account for providing suitable guidance and care. Hence, enhanced psychological well-being may lead to improvement in glycaemic level and enhanced quality of life experience among diabetes people (Diabetes, U.K., 2008).

Currently, India has earned the distinction of being termed as the "diabetes capital of the world" (Mohan, et.al., 2007). In the coming few years, a major epidemiological shift of the country will be towards diabetes. Since, the aforesaid literature finds a strong linkage between diabetes and mental illness, the research focus needs to be on the interface of these two ailments rather than studying these disorders separately. The management of Diabetes Mellitus requires a long term care and a continual address to the mental health condition. Thus, the researcher is particularly interested to explore the issues and challenges associated with mental health status of diabetes patient.

This paper systematically reviews the existing and available literature related to mental health and diabetes. Accordingly online searches were made using the key words: diabetes management, issues, challenges, barriers, adherence, mental health, anxiety, depression, diabetes care. Further, the cross references generated from these literatures prompted towards more focused readings. These readings can be broadly grouped into two types: one, clinical trails and second, qualitative information capturing various perspectives of care recipients and care givers.

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ISSUES AND CHALLENGES

Prevalence

In recent years, prevalence rate of diabetes is rising in India. In 1970's, the Indian Council of Medical Research (ICMR) had conducted a study that reported a prevalence of 2.3% in urban areas (Ahuja, et. al. 1974; Gupta, et. al. 1978) which has risen to 12-19 % in 2000's. Similarly, the prevalence rate has increased from approximately 1% in rural areas (Ahuja, et. al. 1974; Gupta, et. al. 1978) to 4-10%, and even 13.2% in one study (Chow, et. al. 2006). Thus, the prevalence rates of diabetes are rising rapidly across the country despite the rural and urban settings, with more concentration in urban centers than rural. This trend has existed throughout the last twenty to thirty years with Kerala being an exception, where prevalence rates of rural pockets equalized or even surpassed urban areas (Mohan, et. al. 2008). This may be due to the fact that the whole of Kerala can now be considered to be urbanized, as there is no clear urban/rural demarcation. Hence, with simultaneous increase in prevalence rate of diabetes; the greatest challenge for public health experts and policy makers is to prevent and control diabetes.

Age, Gender, Educational Qualification and Duration of Illness Effect Over Diabetes

Studies have suggested that duration of diabetes is one of the non-modifiable and vital risk factors which lead to diminished quality of disease management (La Greca, et. al., 1995; Craig, et. al., 2002). This is specifically proven among older adolescents who suffered for longer duration and exhibited poor self-care (Dashiff, et. al., 2006; Helgeson, et. al., 2009) thereby making age also an important factor. Gender and its effect on self-care have produced contradictory outcomes. While a few studies show girls perform poorly in self-care (Bryden, et. al., 2001; La Greca, et. al., 1995), a few others reveal more difficulties among boys (Naar-King, et. al., 2005; Perwien, et. al., 2000). Rationale behind such diverse evidences could be due to inappropriate comparison between male and female adolescent samples without reference to age or duration of diabetes. Hanna and Guthrie (1999) give another possibility as why girls poorly manage to care for themselves. According to them, older girls usually skip snacks, have unhealthy dietary practices, and accordingly compensate with insulin dosage than boys. Similar studies have also established the fact that girls experiencing longer duration of diabetes have more complications (Huang, et. al., 2004; Rewers, et. al., 2002). Hence, formulating programs by addressing the issues of age, gender, educational qualification and duration of illness may help in effective diabetes management.

Effect of Socio Economic Status on Diabetes and Mental Health Status

In India, about one quarter of the population are below poverty line (BPL) category and 41.6% subsist on 1.25 USD per day. Therapeutic option imposes a major economic burden on people. This affects their capacity to continue diabetes

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care. The direct medical cost for diagnosis of glucose intolerance level is INR 5278 (Ramachandran, 2007). The cost of insulin accounts to INR 16000 per person per year, whereas medications for non-insulin dependent patients cost only INR 3200 per person per year (Ramachandran, 2007). Diabetes alone claims approximately 17% of the annual household expenditure for hospital treatment in poor households through out-of-pocket payments. They are often compelled to borrow money to meet the expenses (Rao et.al., 2007). Since diabetes is no longer considered as a "diseases of affluence", it is really a matter of great concern as many poor households will be bankrupted in order to bear treatment for diabetes. (WHO, 2011). Moreover, difference in socio economic condition is likely to exhibit effect over coping mechanisms which is more likely to generate psychological distress. Ultimately, a case of diabetes with psychological distress is more difficult to manage. Policy makers and public health experts should keep in account the various socio-economic strata of people while formulating programs; so that, it does not dig a hole in the pockets of an individual.

Knowledge, Attitude and Practice of Diabetic patients

The available scientific knowledge concerning diabetes mellitus is an important resource to guide and educate diabetes patients concerning self-care. Self-care concepts that can benefit patients include adherence to diet, physical activity, blood glucose monitoring, and taking oral medication and insulin (Saleh, et. al., 2012). Knowledge and attitude are the first steps in formulating a preventive program for Insulin Dependent Diabetes Mellitus (IDDM). When inaccurate information is the basis for patient care from the nearest and adherent care provider of the child with IDDM mother, the result may be potentially harmful (Auerbach, 1990).

The Maryland study finds patients with proper understanding of diabetes medications perform better to control their glycemic level (Golay, et.al., 2008). Similarly, Persell and colleagues (2004) suggested in a study that self-management activities are expected to be performed in a better manner by the knowledgeable patients. However, these patients failed in achieving the metabolic outcome goals, and did not receive the recommended ambulatory care for diabetes patients.

Anderson and colleagues (1990) illustrates through a study that individuals having inadequate knowledge regarding their diabetes also have less urge to seek diabetes management and practice self-care. The study therefore establishes a strong association between positive attitudes of a diabetic patient with their adherence. Further, poor knowledge regarding causes and symptoms of the disease hinders one to take preventive measures (Pace, et. al., 2006).

Misconceptions related to diabetic care including its treatment reflect poor knowledge, attitude and practice among the general population. Consequently, there is an increase in diabetic patients has lead to increase in number of diabetic patients. Therefore, regulated awareness campaigns and counseling sessions need

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to be planned and organized to disseminate the necessary information to the patients and their care-givers for attaining better self-care.

Adherence to Treatment

Previous research shows adherence rate among patients suffering from chronic diseases in developed countries averages only 50% (Haynes, 2001; Sackett, et.al., 1978). In comparison, the scenario in developing countries is even grim (Bovet, et.al., 2000; Graves, 2000). People suffering from chronic poverty and requiring long-term care has to rationalize their needs including the problem of adherence to medications and therapies. Poor adherence to medication compounds the challenges of improving health in poor populations and results in waste and underutilization of already limited treatment resources (WHO, 2003). A study suggests that once-daily medicine regimen have higher adherence rates than twice daily medicine regimens (61% vs. 52%) (Dezii, et al., 2002). Similarly, higher rates of adherence to medication are demonstrated in monotherapy regimens than those of polytherapy regimens (49% vs. 36%) (Dailey et. al., 2001). Adherence rates were lower among diabetic patients dependent on insulin than for oral hypoglycemic agents (73% vs. 86%) (Rajagopalan, et. al., 2003).

Individuals with diabetes can evade the agony of associated complications and unnecessary expenses by adhering to their medication. Adherence to recognized standards of care may help in avoiding the development of individual, societal and economic costs of the disease. Moreover, patients experiencing psychological problems have very low level of adherence rate which leads to therapeutic and psychosocial problems with diminished quality of life.

However, problems in adherence to medication regimen are not only attributable to factors associated with patient's behavior or uniqueness of disease and its treatment; but also, choice of health care system with its quality of service delivery has a huge contribution. In general, healthcare systems have been ignored by the public health experts and policy makers while formulating logical interventions for providing quality health services. Hence, by improving the healthcare system with quality services may help an individual to adhere to its requisite medication and treatment regimen.

Co-morbidities

Diabetic patients experiencing effects of associated diseases or co-morbidities such as hypertension, obesity and depression have to follow difficult treatment regimens. Eventually, it leads to poor adherence to medication rate which results in undesired treatment outcomes (Lustman, et.al, 1997; Ciechanowski, et.al., 2000).

Several studies indicated that direct costs increases by three to four folds due to diabetes and its associated complications. Moreover, the indirect costs for instance, losses due to sick leave, early retirement and premature death cause

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approximately the same impact as that of direct costs (Herman, et.al., 1998; Henriksson, etl.al., 2000; Kangas, 1995). Hence, treatment of co-morbidities such as anxiety, depression and hypertension are very important for efficient diabetes management.

Psychosocial Support over Mental Health and Diabetes

Cox and colleagues (1992) described diabetes as "one of the most psychologically and behaviorally demanding of the chronic medical illnesses." What makes diabetes difficult to treat is that psychosocial factors play a role in "nearly every aspect of diabetes and its treatment" (Cox & Gonder, 1992). It is apparent that, diabetes should be holistically managed by psychosocial treatment in order to get suitable biomedical outcomes (Kalra, et. al., 2013).

People living with diabetes have more challenging emotional and psychological needs as compared to general population. It is evident from diabetes patients residing in India that they experience lower levels of psychological well-being. Correspondingly, they also register a low well-being index equivalent with the global trend. Indian diabetic patients also illustrated significant level of elevated perception regarding social burden and personal suffering associated with their disease (Peyrot, et.al., 2005). Consequently, it diminishes their psychosocial well-being and capability to adhere to the medication.

Psychosocial factors works as an essential modulators for accomplishment of better treatment outcomes and long-term prognosis of diabetes. The diabetic patient is responsible for implementing effective self-care measures, which depends on the patients' psychosocial condition comprising of social, cultural, familial and professional interaction of an individual with its environment (Petrak, etl.al., 2005). Awareness regarding the importance of psychosocial factors has increased both among the patients and the service providers. In support of this fact, 98% of participants representing medicine, politics, nursing and patient groups at the first Oxford International Diabetes Summit (2002), echoed their voices for inclusion of psychosocial aspects of diabetes in national guidelines (Young, et.al., 2012).

Knowledge of Clinicians Regarding Diabetes Management and Patients Psychological Wellbeing

The deficiency in clinician's knowledge regarding recent advances in evidence-based guidelines may influence the treatment outcome. Predominantly, they are not sure about which insulin to prescribe, when to start it and at what quantity/dose/units (Brown et. al., 2002). Peyrot and colleagues (2005) reported that the clinician's also lack the knowledge regarding the patients' psychological well-being. About, 41% of diabetes patient experience psychological symptoms and it affects their ability to self-care. Even if, the clinicians are aware about this fact; several have confessed their incapability in identifying, evaluating

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psychological problems and providing support to the affected patients. Hence, requisite training should be conducted to enhance their skill sets and additional training should be provided to recognize and manage psychological distress. This shall result in enhancing the level of quality of care.

Interaction and Communication between Patient and Service Provider

The interaction of diabetes patients' with type of service and type of healthcare professionals are the two factors which influence their disease perception (Lawton, et. al., 2005). Better diabetes care and diabetes outcomes or both are predicted by good patient and service provider communication (Schillinger, et. al., 2003). A study by Ciechanowski and colleagues (2001) suggested that quality of patient – service provider communication is directly proportional to level of adherence to treatment among type 1 and type 2 diabetic patients in a primary care setting. Hence, clinician-focused and patient-focused interventions can be planned for enhancing the quality of communication between the patient and the service provider. This shall help in identifying the co-morbidity factors such as, psychological distress, anxiety and depression among the diabetic patients and ultimately may lead to better quality of care.

Healthcare System

Diabetes care to over 75% of type 2 diabetes patient is being exclusively provided by primary healthcare provider. But, approximately only 33% of patient follow the directions for diabetes care provided by the healthcare professional (Shumaker, et. al., 2004). In the current scenario, it is difficult on the part of an overburdened primary care provider to complete many activities such as, providing preventive care, treat patients, write prescriptions and referrals, and handle other administrative issues. It is also a challenge for the primary care provider to single handedly devote longer duration or exclusive time for behavioral, psychosocial, and emotional issues of individuals living with type 2 diabetes. In contrast, studies suggest that longer appointment times for chronic disease patients, reminder systems with automatic provision, and checklists can improve diabetes care (Larme & Pugh,1998; Eytan & Goldberg, 2001). Therefore, it is important to ensure that facilities of healthcare systems should be strengthened or improved to address the issues of both the service provider and the beneficiaries.

Mental Health Status of People Living with Diabetes

Anxiety disorders among diabetes patients

There is an established association of anxiety and depression with diabetes. High stress can result in higher risk for psychological disorders such as depression and anxiety. Peyrot and Rubin (1997) assert a possible linkage of diabetes with anxiety at higher level. It can be further inferred that this high level of anxiety is a result of diabetic patients difficulty in experiencing and coping with hypoglycemia

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and other associated complications (Polonsky et. al., 1995; Welch et. al., 1997). These people also encounter depression at much higher level and frequency in comparison to general population.

People living with diabetes need to regulate their food intake and avoid sedentary habits so as to control their blood glucose level. However, changing one's lifestyle might be challenge for most of the people living with diabetes. The constant efforts results in significant rise in the level of stress among the people living with diabetes. The lifestyle of a diabetic is unremitting; rigorous lifestyle demands associated with diabetes in conjunction with the risk of hypoglycemia and severe hyperglycemia, creates more stress in already stressful lives (Weinger & Lee, 2006).

It is often seen that people have psychological barrier in accepting insulin to control diabetes. There are some prevalent notions like, "pushing an insulin injection hurts", "it aches after taking insulin", "it is difficult to routinely take insulin" and so on that resist people from taking insulin. Some may even prohibit themselves from taking insulin considering it as their failure to control diabetes. Fearing diabetes as a social stigma, they do not take insulin. As a result, diabetes remains unmanaged which in turn deteriorates their physical and mental health.

People living with diabetes report frustration, over stressed, un-pacified anger, persistent guilty feeling or apprehensive about the constant poor glucose readings despite good adherence to medication. These stressors may result in discouragement and reduce a patient's self-care motivation. Lack of adherence to treatment due to psychological problems is associated with poor metabolic control (Czyenwski, 1988).

A study by Cox and Gonder (1992) revealed an interesting fact that people with medical history of hypoglycemia tend to follow lifestyle that make them hyperglycemic. People do it by choice since they believe that symptoms related to hypoglycemia, like tremors, profuse sweating, cognitive dysfunction, irritability, loss of consciousness are unpleasant and embarrassing.

The Alberta Diabetes Atlas (2009) maps some of the psychological disorders like affective disorders, anxiety disorders, organic and non-organic psychoses, and substance use disorders particularly among the diabetes population. According to it, research and healthcare interventions should focus on strategies to minimize complications, morbidity and mortality in this population.

More serious is the concern that people with diabetes undermine their anxiety and depression which are otherwise related with poor adjustment of diabetes. As a result, these disorders are under reported and remain un-diagnosed. It is known that severe anxiety directly affects self-care of diabetes. It also influences metabolism following a complex pathway resulting to a low quality of life and the disease remains un-managed (Peyrot, et al., 1999).

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Coping with complication of diabetes on a regular basis increases the stress level, leading to depression and anxiety. Consequently, disruptions of psychological wellness may impact diabetes adversely. The complications aroused due to failure in self care and diabetes management can shorten life span and Quality of Life (Rubin & Peyrot, 1999).

Treatment of diabetes requires effective changes in health behavior and intensive self-management of treatment. These are difficult task for patients living with diabetes, and it is poses a greater difficulty on the part of those who are suffering from psychological problems. Hence, the clinicians should understand their role in addressing the health behavior and treatment adherence of the patients living with diabetes. Approaches towards improving the health behavior and treatment adherence shall help in improving not only psychological outcomes of treatment, but may also have a beneficial impact on health outcomes (Jeffrey, et al., 2011).

Depression among Diabetes patients

Peyrot and Rubin (1997) establish the fact that elevated level of depression are caused by diabetes and allied factors. This is further supported by several experimental studies which found high glucose level in samples with diabetes than those without it (DeGroot, et.al., 1999; Lustman et al., 1997; Mazze et. al., 1984). Although there is a strong correlation between diabetes and depression, poor glycemic control does not invariably cause depression. There are evidences where people despite having depression could effectively manage diabetes. Apart from those few cases, majority of the diabetic patients have higher prevalence of depression than the general population. Women who are unmarried and with low literacy level are the worst sufferers. It is estimated that one out of every five diabetic people has depression with intensity three times higher than the general population. Moreover, higher the number of complications related to diabetes the more severe is the depression. However, one study finds that 40% diabetic people exhibit severe symptoms of depression even though they are clinically not depressed (Gavard et al., 1993). However, sub-clinical the depression is it still diminishes the emotional and physical wellbeing. Notwithstanding to the high prevalence of depression in many empirical studies, in reality it is only tip of the ice-berg because many cases remain undiagnosed and under reported. In one of the estimates given by Lustman and colleagues (1997), nearly 33% of the depressed diabetic patients receive treatment after proper diagnosis.

On the other hand, there is no scientific proof to suggest that the type of diabetes, its duration and treatment has any effect on the occurrence of depression (Peterson, et.al., 1998; Rubin & Peyrot, 1999). Rather, it entirely depends on how one takes care of the diabetes. An overly depressed individual resorting to any type of addiction as a way to overcome depression actually worsens the

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glucose level and make diabetes all the more complicated (Rubin & Peyrot, 1994). Biologically speaking, the interface of depression and diabetes give rise to a complicated neural-endocrinal interaction to produce a worsening effect (Lustman et.al., 1988). Therefore, both the conditions need to be attended seriously. It is shocking to note that approximately 75% of the diabetic patients have likelihood to encounter four episodes of depression, on an average, within a span of five years from their period of recovery (Lustman et.al., 1996).

Depression is linked to decreased motivation, lack of energy, hopelessness, interfering with ability to perform demanding diabetes self-management tasks. Depressed people tend to be less physically active, eat less healthy, and become non adherent to medication, higher BMI, and smoking habit (Weinger & Lee, 2006). Increased mortality in diabetics is associated with depression is related to poor adherence to treatment regimens, poor adherence with disease control measures, and poor glucose regulation (Astle, 2007). In the similar line, Leonard (2010) stated that depression in people with diabetes is associated with decreased adherence to treatment, poor metabolic control, higher complication rates, increased healthcare use and cost, increased disability, lost productivity, and increased risk of death. Subsequently, it hampers the quality of life.

CONCLUSION

This article critically examines the status of mental health of diabetes patients in India. It also tries to explore how diabetes and mental health are separately dealt under respective national health program (National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Disease and Stroke – NPCDCS and National Mental Health Program - NMHP) there by creating scope to explore the interface between these two ailments. This article contributes towards the literature concerning mental health status of diabetic patient in India by critically examining studies in the concern field. This will help researchers to find out the gap in literature and plan for future research. This paper has also implications for practitioners and policy makers in the field of medical and behavioral sciences.

The greatest challenge for the public health experts and policy makers is not only to prevent and control diabetes but also to intervene at this point. This is because majority of diabetes patients (approximately 41%) suffer from psychological problems and poor quality of life due to anxiety, depression, needle phobia, eating disorders, etc. This leads to low level of medication adherence. Eventually, poor health outcomes results with hyperglycemic/hypoglycemic conditions in combination with other severe complications. On the other hand productivity falls and the healthcare costs rises making it very challenging for the sufferers. Hence, they warrant more care than the general population.

An effective intervention needs to be both population centric and patient-focused approach that considers age, gender, educational qualification, socio-economic status etc. In addition, it needs to include other parameters like duration

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of illness, adherence to medication, occurrence of co-morbidities and psychological distresses. Psychosocial factors are important modulators for the success of treatment and long-term care of diabetes. Addressing the psychosocial factors through proper counseling to the patients and their care givers might lead to better adherence to medication and self-care.

An understanding of mental health issues in diabetes is critical for all health care professionals who provide treatment to people with diabetes. Hence, requisite training should be conducted to enhance their present skill sets and additional training should be provided to recognize and manage psychological distress. Further, clinician-focused and patient-focused interventions can be planned for enhancing the quality of communication between the patient and the service provider. This might help in identifying the co-morbidity factors such as, psychological distress, anxiety and depression among the diabetic patients and ultimately lead to better diabetes management.

Diabetes mellitus is not completely curable. It can be controlled to a great extent through proper dissemination of diabetes information and adopting better self care measures. The control of diabetes mostly depends on the patient and it is his/her responsibility to take care of their diet, exercise and medication. Advances in diabetes research have led to better ways of controlling diabetes and treating its complications. Simultaneously, with substantial evidences regarding the issues and challenges are creating hindrance in effective diabetes management. Hence, logical interventions should be planned in order to overcome these obstacles. Community based health programs can be planned for creating new horizons for diabetic care in the country. Further research should be promoted to evaluate the process and outcomes of an implemented program. All these measures may help in reducing the enormous burden of diabetes on our society.

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COPING AND WELLBEING IN INFERTILE MALES AND FEMALES

Shilpi Singh and Anubhuti Dubey***

ABSTRACT

The present study attempted to explore the role of different coping strategies and their impact on wellbeing of couples undergoing infertility treatment. A sample of 74 infertile couples (74 Males and 74 Females) of two treatment technique groups (IVF & ICSI) (Total N=148) had been assessed for their coping strategies and well being (i.e. quality of life and life satisfaction) during infertility treatment process. The findings of multiple regression analysis revealed that in male participants, active and acceptance coping were emerged as best predictors of quality of life and life satisfactions while in female group the quality of life and life satisfaction was significantly predicated by active, adaptive and maladaptive coping strategies. Furthermore, the finding of the study identified gender differences in coping with infertility by male and female.

Keywords- Coping strategies, Quality of life, Life satisfaction, IVF, Maladaptive coping , and ICSI

INTRODUCTION

Infertility challenges the life expectations of infertile couples. It is an unexpected stressor, hence, many couples typically lack the knowledge and skills to adequately manage stress related to infertility. Coping refers to the thoughts and behaviors that people use to deal with stressful situations. Coping has been defined in psychological term as constantly changing cognitive and behavioral efforts to manage specific external or internal demands that are exceeding the resources of the person (Peterson, Pirritano, Christensen, & Schmidt, 2008). Infertile couples may react in many different ways while facing the difficult or

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stressful treatment process, in order to effectively adopt or adjust with the situation and to produce desirable outcome. Coping, a stabilizing factor can help individual to maintain psychosocial adaptation during stressful periods (Lazurus, 1993; Moos & Schaefer, 1993). Coping can play an important role in managing heightened demands unexpectedly placed upon them for the individuals undergoing the infertility treatment journey. Infertile couples take on a range of coping strategies in an effort to recover control over their lives and rebalance the interferences made by infertility treatment process in their personal and social relationships. The focus on gender differences is evident in studies of coping with infertility (Dhillion, Cumming, & Cumming, 2000.; Hjelmstedt, Andersson, Skoog-Svanberg, & Bergh, 1999). Women consistently report higher amounts of infertility stress than men (Newton, Sherrard, & Glavac, 1999). For men and women, the strategies used for coping with infertility have similarities as well as differences (Benyamini, Gefen-Bardarian, Gozlan, Tabiv, Shiloh, & Kokia 2008; Schmidt, Holstein, Christensen, & Boivin, 2005). Social coping resources, growth-fostering relationships, partner support and family support all contribute to lessen the infertility stress among women (Gibson & Myres, 2002). Moreover, women who responded to infertility as a 'challenge' were less distressed than women who responded to infertility as a 'loss' (Hansell, Thorn, Pretice- Dunn, & Floyd, 1998), but women who perceive a strong link between their future happiness and becoming a parent exhibit higher levels of psychological distress (Brothers & Maddux, 2003).

For most men and women, infertility is a life changing experience that often carries unexpected stressors and potential stigmatization. A meta-analysis examining eight studies that explored gender differences and coping with infertility found that women engage in seeking social support, escape/avoidance and positive reappraisal more often than their partners (Jordan & Revenson, 1999). The differences were found in the style of coping between husbands and wives. In general, women consistently reported higher levels of infertility stress when compared with men. Because women experience greater levels of distress, they often report using coping strategies more frequently than men (Greil, 1997). Some evidence suggests that distress levels are related to one's partners coping strategies as well as to one's own (Schmidt, Holstein, Christensen, & Boivin 2005).

The type of coping strategies used by a person leads to his/her status of well being. Well-being is defined as a person's cognitive and affective event as well as cognitive judgment of satisfaction and fulfillment (Dubey, 2003, 2012). Well-being is a broad concept that comprise of experiencing pleasant emotions, low levels of negative moods, high life satisfaction. More specifically, well-being involves our experiences of pleasure and our appreciation of life's rewards. Subjective well-being is a combination of positive affect (in the absence of negative affect) and general life satisfaction (Diener 1984). Life satisfaction and quality

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of life are two important aspects of wellbeing. The stigma associated with male and female infertility in traditional societal interactions causes a high level of psychological distress with a direct impact on the couple's life (Misra & Dubey, 2013). Hence, quality of life which is the term used to measure general well-being of an individual, is affected in these couples (Valsangkar, Bodhare, Bele, & Sai, 2011).

Women experience stigma and isolation. Infertility can threaten a woman's identity, status and economic security and consequently, be a major source of anxiety leading to lowered self-esteem and a sense of powerlessness. According to a study in Mumbai, "She is called waanj (barren). There is a superstition that if she touches a baby, the baby will die." (Dillu, Sheoran, & Sarin, 2013). A study in Andhra Pradesh showed that, anticipating taunts and hostile behavior from others, many women shun social functions (Unisa, 1999). Anderson (2003) was found that women had significantly greater infertility-related concerns, such as life satisfaction, sexuality, self-blame, lowered self-esteem, and avoidance of friends, compared to their male partners. Most infertility researchs define life satisfaction does not follow the strict construction of wellbeing as consisting of positive and negative affect and life satisfaction has been used interchange with happiness, subjective wellbeing and adjustment (Kohler, Behrman, & Skytte, 2005). Infertility could be viewed as a health condition that could affect life satisfaction, some researcher conducted that life satisfaction as being state or trait related to infertility (Diener, Oishi., Lucas, 2003).Some researchers found that infertility is negatively associated with subjective well- being and life satisfaction (Abbey, 2002). Some studies were denoted the gender differences exist in the relationship between wellbeing and life satisfaction, with women faring worse than men (Anderson, Sharp, Rottar, & Irvine, 2003).

Objective of the Study

There were two major objectives of the present piece of work- (i) to find out the gender differences in coping strategies of males and females undergoing infertility treatment procedures (ii) to find out the role of coping strategies in wellbeing in male and female group of participants

METHOD

Sample

The sample consisted of a total of 74 diagnosed infertility couples (74 Males and 74 Females) belongs to eastern Uttar Pradesh, aged between 25 to 35 years. Minimum duration of marriage was two years without children. The female participants were undergoing either IVF or ICSI techniques of infertility treatment and male participants were their life partners.

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Tools Used

In the present investigation following tools had been used for data collection and there description is given below:

1. **Coping Operation Preference Enquiry (COPE):** The brief cope scale was used in the study. This scale was developed by Carver (1997). This short scale had 28 items divided into fourteen types of coping. Each type of coping had two items. These are self –distraction, Active-Coping, Denial, Substance use, use of emotional support, use of instrumental support, Behavioral disengagement, Venting, Positive reframing, Planning, Humor, Acceptance, Religion, and Self-blame. The responses were made on a four point scale ranged from (1) I haven't been doing this at all, (2) I've been doing this a little bit, (3) I've been doing this a medium amount, (4) I've been doing this a lot. The cope's items have moderately high test- retest reliability. The Cronbach alpha was 0.54 to 0.90 for the fourteen subscales was found.
2. **WHOQOL-Brief:** Quality of life was measured by WHOQOL-Brief. This questionnaire is the short version of the long scale WHOQOL-100. In order assess the quality of life in health care settings in India, this questionnaire was developed by a team of researchers of World Health Organization (WHO), namely Saxena, Chandirmani and Bhargava (1998). The WHOQOL Brief measures QOL in four domains namely, Physical, Psychological, Social relationship and Environmental. A five point rating scale was used to seek responses on each item. In this scale, there were 2 items each to assess overall quality of life and general health. Rest of the 24 items represents the 24 facets incorporated in long scale. The retest reliability of the scale was sought and found (r=0.79) by Dubey (2003).
3. **Satisfaction with Life Scale:** To assess the respondent's overall satisfaction with life this scale was used, which is developed by Pavot, Diener and Suh (1998). This scale consists of five items. All the items of SWLS were keyed in a positive direction. The items were scored on a seven point scale ranged from (1) strongly disagree to (7) strongly agree. All the items were positively keyed; therefore, scoring the SWL involves a summation of the 5 items. Scores on the scales could range from 5 to 35. The alpha reliability of the test was found to be 0.92 and retest reliability (a 4 –week interval) was 0.83 (Pavot, Diener & Suh, 1998). Dubey (2003) had translated this scale into Hindi language. This Hindi version of the scale was significantly and positively correlated (r=0.74) with that of original English version. The retest reliability of Hindi version, after an interval of 8 weeks was 0.77.

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Procedure

In order to fulfill the purpose of the study, the researcher had made cordial atmosphere and explained the purpose of the research in hospital setting. A set of questionnaires had been given to the participants. The data were collected individually and it took around 20-25 minutes with each of the participants. After taking their responses thanks were given to them for their cooperation. The data were subjected to statistical analysis using computer software SPSS 16.00th version.

RESULTS AND DISCUSSION

The responses were analyzed using analysis of variance and regression analysis techniques.

Table 1: Mean, S.D. & F ratio of Coping Strategies in Males and Females

Coping Strategies	Females		Males		F
	Mean	*S.D.*	*Mean*	*S.D.*	
Active Coping	5.47	1.38	5.53	1.61	.56
Positive reframing	5.52	1.41	4.95	1.65	5.24**
Planning	5.52	1.51	4.95	1.62	2.41*
Acceptance	4.50	1.91	3.70	1.60	7.21**
Emotional support	5.01	1.42	4.84	1.46	.48
Instrumental support	4.50	1.91	3.70	1.60	7.21**
Religion	4.63	1.64	4.12	1.43	3.98**
Humor	5.05	1.45	4.48	1.60	5.22**
Self distraction	5.21	1.47	5.40	1.56	.56
Denial	5.58	1.40	5.63	1.55	.03
Substance use	5.49	1.28	5.44	1.48	.04
Behavior disengagement	5.45	1.54	4.64	1.65	7.21**
Venting	5.44	1.50	4.73	1.63	7.61**
Self blame	5.08	1.80	4.41	1.46	5.91**

Table 1 showed that gender had a significant impact on the use of different coping strategies *i.e.* positive reframing (F=5.24,P<.01), planning (F= 2.47, P<.05), acceptance (F= 7.21, P<.01), humor (F= 5.22, P<.01),religion (R=3.98, P<.01),behavior disengagement (F= 9.57, P<.01), venting (F= 7.61,P <.01), and self blame (F= 5.08, P<.05). The scores of mean values indicated that female participants had used these coping strategies more than their male counterparts. However, for the coping strategies like self distraction, denial, substance use as well as active coping there were no significant differences emerged between male and female participants.

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Role of Coping Strategies in Life satisfaction and Quality of life

To examine the predictive value of different coping strategies in life satisfaction and quality of life the stepwise multiple regression analysis was performed where a set of three broad coping strategies *i.e.* Active coping (active coping, planning, positive reframing and acceptance), Adaptive coping (religion, emotional support, instrumental support and humor) and maladaptive coping (self blame, venting, self distraction, denial behavioral disengagement, substance use) were entered as predictors and quality of life and satisfaction with life were entered as criterion variables separately.

Coping Strategies and Life Satisfaction

Table 2 indicated that life satisfaction was significantly predicted by active and acceptance coping in male group. Both of these coping strategies together explained 26% variance in criterion variable. Active coping positively explained 16% variance followed by acceptance coping which negatively predicted 10% variance in criterion variable.

Table 2: Life Satisfaction as Predicated by Active Coping Strategies

Predictors	*Criterion= Life satisfaction*					
	R	R^2	R^2Change	Beta	t	F
			Males			
Active coping	.41	.16	.16	.36	3.88**	16.92**
Acceptance	.52	.27	.10	-.32	-3.41**	15.38**
			Females			
Humor	.33	.11	.11	.53	3.53**	7.68**
Planning	.41	.17	.06	.21	2.10**	6.26*

Note: P<0.01**, P<0.05*

Humor and planning coping strategies were found to be the best predictors of life satisfaction in female group. These two coping strategies had positively explained 16% variance in life satisfaction. Humor coping independently explained 11% variance followed by planning coping which explained 6% variance in evaluation of life satisfaction.

Table 3 reported that only in female group and not in the male group adaptive coping strategies were emerged as significant predictor of life satisfaction. In females group two types of adaptive coping strategies *i.e.* emotional support and instrumental support were emerged as the significant predictors for life satisfaction. Both of these coping strategies together explained 24% variance in the criterion variable. Emotional support independently explained 9% variance

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followed by instrumental support which explained 15% variance and the beta value suggested that both of these variables had positive contribution in the life satisfaction.

Table 3: Life satisfaction as predicted by Adaptive coping strategies (females)

Predictors	*Criterion= Life satisfaction*					
	R	R^2	R^2Change	Beta	t	F
Emotional Support	.50	.24	.09	.36	3.68**	13.52**
Instrumental support	.39	.15	.15	.31	3.68**	14.80**

Note: P<0.01**, P< 0.05*

Table 4: Life satisfaction as predicted by Maladaptive coping strategies

Predictors	*Criterion= Life satisfaction*					
	R	R^2	R^2Change	Beta	t	F
			Males			
Denial	.24	.06	.06	.24	2.06*	4.02
			Females			
Substance use	.44	.19	.08	-.29	-2.24*	10.01**
Denial	.32	.10	.10	.54	4.37**	9.97**
Self blame	.48	.23	.04	-.21	-2.10*	8.44**

Note: P<0.01, P<0.05***

Table 4 presented that in male group denial was found to be the best predictor for life satisfaction. It had positively contributed 6% variance in criterion variable. However, in female group, life satisfaction was significantly predicted by a set of three variables namely, substance use, denial and self blame. These three variables together explained 22% variance in the criterion variable, where substance use explained 8% variance and denial explained 10% variance and self blame explained 4% variance. The beta values showed that two predictors namely, substance use and self blame had negative contribution and denial coping had positive contribution in criterion variable life satisfaction. Denial had emerged as significant contributor of life satisfaction in both male and female group and had positive contribution too.

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Coping Strategies and Quality of Life

Table 5: Quality of life as predicted by Active coping strategies

Predictors	*Criterion= Quality of life*					
	R	R^2	R^2Change	Beta	t	F
			Males			
Active coping	.58	.33	.06	.25	2.76*	20.85**
Acceptance	.52	.27	.27	-.49	-5.46**	-31.58**

Note: P<0.01**

Table 5 indicated that quality of life was significantly predicted by active and acceptance in male group. Both of these coping strategies explained 33% variance in the criterion variable. Active coping positively explained 6% variance and acceptance coping negatively explained 27% variance in criterion variable quality of life. None of the component of active coping strategies had emerged as significant predictor for quality of life in female group.

Table 6: Quality of life as predicted by Adaptive coping strategies

Predictors	*Criterion= Quality of life*					
	R	R^2	R^2Change	Beta	t	F
			Females			
Emotional Support	0.34	0.11	0.11	0.34	3.56**	12.09**
Religion	0.46	0.17	0.17	0.46	4.66**	21.01**

Note: P<0.01**

Table 6 showed that in female group a set of two variables *i.e.* emotional support and religion had emerged as the significant predictor for quality of life. Both of these coping strategies together explained 28% variance in the criterion variable. Emotional support coping positively explained 11% variance and religion coping explained 17% variance in evaluating quality of life.

Table 7 reported that in female group self distraction and self blame coping were emerged as the significant predictors for quality of life. Both of these coping strategies together explained 31% variance in criterion variable. Self distraction independently explained 10% variance followed by self blame coping which explained 21% variance and the beta value suggested that both of these variables had negative contribution in the evaluation of quality of life. However, in male group none of the maladaptive coping strategies significantly explained quality of life.

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Table 7: Quality of life as predicted by Maladaptive coping strategies

Predictors	*Criterion= Quality of life*					
	R	R^2	R^2Change	Beta	t	F
			Females			
Self distraction	.56	.31	.10	-.31	-3.48**	18.78**
Self blame	.46	.21	.21	-.46	-5.03**	22.41**

Note: P<0.01**

This study examined how men and women cope with infertility and its treatment related stress. The results from this study shed light on the relative use of coping among men and women experiencing infertility and how coping is related to wellbeing, the combination of two important aspects of life (life satisfaction and quality of life).

Coping Strategies, Infertility and Gender

The coping function is directed towards managing or alternating the problem causing the distress. The findings indicated that infertile couples used both positive and negative types of coping strategies at the same time because coping was depend on person style and demand of particular situation that in which manner coping strategies were used. The idea that coping is not viewed as active or maladaptive but rather situation specific had direct implications for this study. While infertility can be chronic, couples have limited control over the eventual outcome of treatment they blame them self and engaged their self in different activities and venting their emotions. On the other hand coping is the effort to manage psychological stress hence it play mediating role in the situation, couple accepting, planning and reframing their self in particular situations.

The means score showed that women reported more frequent use of almost all coping strategies than men. Women have the primary identity in Indian socio-cultural context is related to wife – hood and mother – hood (Mishra & Dubey, 2013) and they are largely held responsible for infertility. While men's primary identify is that of breadwinner and protector of their families (Mumtaz, 2002). Men associate not having a child with not fulfilling their social role of establishing a family and of 'protecting' their wives. Women, however, seem to view childlessness as integral to their acceptance of self as not being a complete woman. The present findings explained in the light of role constraint and social constraint of male and female, gender refers to the socially constructed roles, behaviors, activates and attributes that a particular society appreciates. For man and women acting out these prescribed gender ideologies shapes the life of men and women around the world. De Ridder (2000) argued that socialization of typical male and female behavior pattern played a role in stress and coping and the effect of socialization is visible in traditional attitudes toward gender appropriate behavior.

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The focus on gender difference is also evident in studies of coping strategies (Dhillion, Cumming, & Cumming 2000; Hjelmstedt, Andersson, Skoog-Svanberg, & Bergh 1990). A meta-analysis of six studies using the ways of coping checklist led (Jordan & Revenson, 1990) support the findings. The impact of infertility on a couple is largely determined by gender role expectations in society, and thus the experiences of women may be significantly different from that of men. Ulrich and Weatherall (2000) suggest that women experience infertility as an unanticipated life-course disruption. Some study were focus on the sense among infertile women that time is slipping away and explore the interaction between familial and societal timetables, body timetables and treatment timetables (Earle, Komaromy, Foley, & Lloyd, 2007). In fact, some studies show that gender roles take greater precedence in shaping women's experience of infertility than the actual physical problem. That is, instead of `infertility' being understood as a socially defined life crisis, it is mistakenly transformed into an individual (feminine) trait (White, & Klein, 2008). Women are made to feel and are more likely to feel anxious, guilty, frustrated and depressed. Further, women are largely blamed for infertility, and the negative consequences for them can range from denial of food and health care to being thrown out of the house so that a man can take a second, presumably more fertile wife (Sing, Dhaliwal, Kaur, 1997).

Childlessness has major religious and social implications especially for women because fertility is highly valued in India (Mishra & Dubey, 2014). Because of social norms an infertile female have lesser status and prestige in the community than their peers with children and they may not be allowed to contribute in societal discussion. For attending the auspicious occasions and customs motherhood is of great importance. Moreover, there are firm believes that if a couple do not their own baby then who will perform the funeral rituals and give salvation (Dubey & Mishra,2014). A woman may suffer any or combination of the followings as a result of being childless- distress, depression, lowered self esteem, social stigma, isolation, economic deprivation, physical violence, threats from husband and our husband's family, rejection, abandonment and divorce (McQuillan, Stone, & Greil, 2007; Unisa, 1999; Pearce, 1999).

Coping Strategies and Life Satisfaction

Type of coping strategies used by couples influenced the whole life judgment of satisfaction. The finding indicated that combined active coping strategies were found to be effective in promoting the level of satisfactions. The findings of regression analysis reported that active coping strategies are important for wellbeing in both groups male and females. Active coping strategies contribute in realistic acknowledgement of problem and provide effective ways of coping to it. Active coping does not solve the all problems and suffering faced by infertile participants. Acceptance coping negative predicated the satisfaction of life in male participants. It indicated that by accepting their childlessness male had perceived

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less satisfied with their lives. Planning coping has positive contribution in judgment of life satisfaction. Logical thinking may reduce the stress induced by infertility and through laughing on the situations and creating humor female participants buffer the adversity of situations. Only in female group of participants adaptive coping predicated satisfaction with life. This may be that female participants need more social support as well as instrumental support which characterize adaptive coping, Although social support seeking appears more prominently in women than in men. In fact, seeking social support was the most preferred method of coping for women. The importance of seeking social support for women is underscored by the study's finding that women who placed a greater proportion of coping efforts into seeking social support reported less infertility stress. These findings support prior research that shows women who are less socially isolated report higher levels of life satisfaction (Stanton, 1991; Daniluk, 1997; Gibson & Myers, 2002). Lesser use of maladaptive coping also promotes life satisfaction in male and female group. Women blame themselves for the loss of pregnancy and childlessness They thought because of their own inability of reproduction they have no children and their partner was not became parents. The strange finding was that denial coping play positive role in both male and female group of participants because they deny their childless situations and enjoy their present life situations.

Coping Strategies and Quality of life

Present findings discussed this view that coping strategies play a role in determining a person's perception of his/her quality of life. Quality of life is concerned with perceptions of goals, expectations, experience of individual in his/ her socio- cultural context and the value system in which he/she lives. The greater use of active coping in males and lesser use of maladaptive coping increase the rating of his/her total quality of life by the infertility. Other researches like (Dubey, 2003, Dubey, 2012) also found relationship between active coping and wellbeing. Active coping is preferred by most of the male participants and was highly effective in stress reduction. The reason behind this may be that active coping provides a sense of mastery and engagement in task orientated behavior and discharged their energy in positive manner. Adaptive coping attempts to modify infertility generated stress by taking action towards problem resolution, only female participants uses adaptive coping (*e.g.* emotional support and religion). Participants of female group cope through the support they receive from the partner and friend, family and through sharing feelings related to infertility with other (Verhaak, Smeenk, Van Minnen, Kremer, & Kraaimaat, 2005; Burns, Covington, & Kempers, 2010). The results indicated that females participants used high social support coping strategies and women trusted in God and therefore they thinks that God would answer their prayers. It indicated their religious way of coping (Dubey & Misra, 2014). However, the maladaptive coping decrease the overall quality of

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life. Women keep themselves busy with other activity that took their mind out of infertility problem and some are distracting themselves.

CONCLUSION

The study highlights how men and women referred coping strategies for infertility and how coping is related to infertility stress and wellbeing? The couples used both positive and negative type of coping strategies to buffer infertility related stress. Although gender differences found in the use of coping strategies as finding indicated females were uses more number of coping strategies than men. The study illustrated that coping strategies were associated with components of quality of life and life satisfaction. Furthermore, male partners had better quality of life and life satisfaction in comparison to their female partner.

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EFFECT OF LOCALE AND GENDER OF CARDIOVASCULAR PATIENTS ON THEIR COPING WITH STRESS

*Alpna Agarwal*and Anshu Agarwal***

ABSTRACT

The purpose of the present investigation was to study the effect of locale and gender on stress coping strategies of cardiovascular patients. For this purpose two types of coping strategies, approach coping and avoidance coping were measured with the help of "coping Strategies Scale" constructed by Prof. A.K. Shrivastav. The sample consisted of 300 cardiovascular patients (35- 50 years). There were 150 cardiac patients from urban background and 150 cardiac patients from rural background. In each group there were 75 male and 75 female. Two way ANOVA was applied for analyzing the data. On the basis of obtained results it can be said that locale is not an influencing factor for approach coping strategies but avoidance coping is significantly affected by it. Male cardiac patients use more approach coping and less avoidance coping strategies in comparison to female cardiac patients.

Keywords- Locale, Coping strategies, Avoidance coping strategies, Cardiovascular disorders and Cardiovascular patients.

INTRODUCTION

Cardiovascular disorders are the disorders of the heart blood vessels and blood circulation, and are the number one cause of death. Stress has been implicated in their direct cause. For example job stress leads to higher rates of the risk factors for cardiovascular disease (Peter and Siegrist, 1997). Hypertension occurs when the supply of blood through the vessels is excessive, putting pressure on the vessels. Coronary heart disease (CHD) is a category of disease that results from the narrowing or blocking of coronary arteries that supply oxygen-rich blood to the heart muscle.

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What Physical process links stress and CHD? There may be three process, First, stress increases catecholamine and corticosteroid release by the endocrine glands; chronically high level of these hormones can damage the arteries of heart, promote atherosclerosis and lead to the development of hypertension and arteriosclerosis. Second stress can elicit cardiac arrhythmia, which can cause a cardiac episode and sudden death. Third, stress is associated with cigarette smoking and high levels of alcohol use.

Individuals of all ages experience stress and try to deal with it at its own way. During childhood years, people learn ways to manage feelings of stress that arise from the many fearful situations they experience (Sarafino, 1986). Due to emotional and physical strain, stress is uncomfortable and people are moti-vated to reduce their stress. These "things" are involved in coping.

The term 'coping' has been used mainly with two meaning: way of dealing with stress, or the effort to master conditions of harm, threat, or challenge, when a routine or automatic response is not readily available (Lazarus, 1974). Lazarus and Launier (1978) have defined coping as "both the mental acts and physical actions, that are taken to control, manage or make tolerable the effects of stress stemming from either external or internal demands".While at a later stage, "Coping is the process by which people try to manage the perceived discrepancy between the demands and resources they appraise in a stressful situation" (Lazarus & Folkman, 1984b). Notice the word manage in this definition. It indicates that coping efforts can be quite varied, and do not necessarily lead to a solution of the problem. Although, coping efforts can be aimed at correcting or mastering the problem, they may also simply help the person to alter his or her perception of a discrepancy, tolerate or accept the harm or threat, or escape or avoid the situation (Lazarus & Folkman,1984a, Moos & Schaeter, 1986). According to Lazarus and his colleagues, coping can serve two main functions (Lazarus, 1999, Lazarus & Folkman, 1984b), *i.e.* it can alter the problem, causing the stress, or it can regulate the emotional response to the problem.

Classification of Stress Coping

Stress coping has been basically classified in two ways:

1. **Emotion-focused Coping:** It is aimed at controlling the emotional response to the stressful situation. People can regulate their emotional response through behavioral and cognitive approaches. Examples of behavioral approaches include using alcohol or drug, seeking emotional social support from friends or relatives and engaging in activities, such as sports or watching TV, which distracts attention from the problem. Cognitive approaches involve how people think about the stressful situation. In one cognitive approach, people redefine the situation to put a good face on it, such as by noting that things could be worse,

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making comparisons with individuals who are less well off, or seeing something good, growing out of the problem.

2. **Problem-focused Coping:** It is aimed at reducing the demands of the stressful situation or expanding the resources to deal with it. Everyday life provides many examples of problem-focused coping, including quitting a stressful job, negotiating an extension for paying some bills, devising a new schedule for studying and sticking to it, choosing a different career to pursue, seeking medical or psychological treatment and learning new skills. People tend to use problem focused approaches when they believe their resources or the demands of the situation are changeable (Lazarus & Folkman, 1984b).

There are various approaches to study stress and understand it's consequences, but one thing is common to them all: discomforting life situations, socio cultural background, rapid modernization, socio economic status, which plays a vital role in the occurrence of physiological and psychological stressors. Sapolsky & Robert (2004) told that socio-economic status and dominance hierarchies are the nearest approximation to social rank. Socio-economic status influences stress reaction and stress related disease dramatically. Yoder, Kevin, Hoyt and Dan (2005) told the family economic pressure and parental depressive symptoms and behaviors were indirectly related to adolescents stress. Result indicates the applicability of the family stress model for understanding adolescent suicidal ideation.

Ginger & Kathryn (2008) revealed, that in low African American urban adolescents, girls reported more symptoms than boys, accounted for by higher internalizing symptoms. Boys reported more stress than girls, particularly at major events, controllable events, exposure to violence and sexual stressors. Boys in gangs reported greater exposure to sexual stressors than non-gang-members. Shu-Chuan Jennifer Yeh, Chia-Hsiung Huang, Hsueh-Chih Chou and Thomas (2008) found, that women had higher scores in using emotion oriented and support seeking coping strategies, while men reported higher stress in reproductive system functioning, and higher scores in using avoidance as a coping strategy.

Objective

To study the effect of locale and gender on stress coping strategies of cardiovascular patients.

Hypotheses

1. There would be no significant effect of locale on stress coping strategies of cardiac patients.
2. There would be no significant difference in stress coping strategies of male and female cardiac patients.

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METHOD

Sample

300 subjects were selected for this study. There were 150 cardiac patients from urban background and 150 cardiac patients from rural background. In each group there were 75 male and 75 female. These subjects were selected from Jaswant rai hospital, Danwantri hospital, Medical College, Metro hospital and hospitals of rural areas of Meerut districts.

Design

The experimental design for this study was 2 × 2 factorial design. There were two independent variables and one dependent variable. The first independent variable was locale that was varied at two levels *i.e.* urban and rural. The second independent variable was gender that was also varied at two levels *i.e.* male and female. The dependent variable was stress coping strategies.

Locale/Gender	*Urban*	*Rural*
MALE	Urban male n=75	Rural male n=75
FEMALE	Urban female n=75	Rural femalen=75

Tool Used

"Coping Strategies Scale" constructed by Srivastava (1986) has been used. The scale comprises 50 items, to be rated on five point scale, describing two types of coping behavior approach coping and avoidance coping. The reliability of the "Coping Strategies Scale" was determined by Test-Retest Method (0.92) and Split – half method (Approach Coping Strategies: 0.78 and Avoidance Coping Strategies: 0.69).

Procedure

A very cooperative and healthy environment was created. For collecting the data, the investigator approached individually to all subjects. The coping strategies scale was given to the subjects. When subjects fill up the scale, these were collected. The scoring was done according to the manual.

RESULT AND DISCUSSION

In order to study the effect of locale and gender on stress coping strategies mean and ANOVA were calculated. Mean scores are shown in Table No.1. ANOVA is shown in Table No. 2 and 3.

Table 1: Mean Scores on Approach and Avoidance Coping Strategies

	Urban	*Rural*	*Male*	*Female*
Approach Coping	76.36	74.72	77.83	73.25
Avoidance Coping	40.83	46.74	42.25	45.33

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Table 2: Summary of Analysis of Variance for Approach Coping Strategy

Source of Variance	*SS*	*df*	*MS*	*F*
A	203.37	1	203.37	1.62
B	1573.23	1	1573.23	12.55**
A×B	36.03	1	36.03	0.29
Within treatment (error)	37089.81	296	125.30	
Total	38902.44	299		

** p < . 01

Table 3 : Summary of Analysis of Variance for Avoidance Coping Strategies

Source of Variance	*SS*	*df*	*MS*	*F*
A	2616.656	1	2616.656	21.13**
B	711.49	1	711.49	5.75*
A×B	431.984	1	431.984	3.49
Within treatment (error)	36648.22	296	123.81	
Total	40408.35	299		

** P < .01, *p < .05

Table-2 indicates that 'F' value for Factor A is (1, 296) = 1.62, P > .05, which is insignificant. The computed 'F' value for Factor B is (1,296) = 12.55 P < .01. The interaction effect is also non significant. Table-3 indicates that computed 'F' ratio for Factor A is (F, 1,296= 21.13, p<.01) which is significant. In table-3 F value for factor B is 5.75 which is also significant (F, 1,296= 5.75, p<.05).

Coping is an important strategy followed by a person to overcome stress. Its purpose is to reduce stress. Coping with stress is considered as an effort by a person to manage and overcome demands and critical events that pose a challenge, threat, harm or loss to that person or the person's normal functioning.

In the first finding of the present research, it was found that there is no significant difference in the levels of approach coping strategies of urban and rural cardiac patients. But, on the basis of mean difference it has been found that urban cardiac patients use more approach coping strategies than rural cardiac patients.

The second finding of the study suggests that locale is an influencing factor to affect the avoidance coping strategy. Rural cardiac patients use more avoidance coping strategy than urban cardiac patients. Farley, Tillman, Galves, Dickinson, Miriam, Diaz, Marie (2005), found that demographic characteristics, socio-cultural and regional background have significant effect on coping strategies. Clark, Anderson, Clark & Williams (1999) found that minority and poor individuals report

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having experienced a disproportionately large number of major stressors. For example Black Americans report being more stressors than Hispanics. Barnes, Schneider, Alescander & Staggers (1997) also found that the heart rate and blood pressure have been found to increase under conditions of physical over-crowding, and correlated with living in high stress urban areas. Kinnunen, Ulla & Feldt, Taru (2004) told that poor economic circumstances were linked to economic strain.

On the basis of these findings it may be concluded that in rural areas people have less facilities than urban areas. Socio-economic status also affects the coping strategies of urban and rural cardiac patients. Urban cardiac patients have better socio-economic status. So, it may be the reason that they use less avoidance coping strategies towards their daily life activities than rural cardiac patients. Urban cardiac patients also have better facilities to cope with their problems in comparison to rural cardiac patients. Illiteracy is also a major problem of rural areas which also may affect coping strategies. Because of illiteracy, the level of dependency is more in rural cardiac patients, in comparison to urban cardiac patients, so, they present a dependent and passive role for a longer period of time. Hospitals and qualified doctors are not available in rural areas, so the people consult other persons about their problem, and most of the times they get unprofessional advice. It also may be a possible reason, that the condition of the patient becomes worse. Suls (1982) also considers that sometimes poor advice is a major obstacle to cope effectively with the problems related to the disease. Mok and Tam (2001) also consider that the kind of coping strategies patient use also depends on their personal experience, social support system, individual belief and availability of resources. Because of all these problems of rural areas, patients may have the pessimistic attitude and apply more avoidance coping strategies and less approach coping strategies than those of urban cardiac patients. Mc, Caul, Sandgren, King, Donnell, Branstetter and Foreman (1999) told, that avoidance coping has been associated with less well being, more distress and poor quality of life among patients. It also may be the possible reason that rural cardiac patients are more distressed and have poor quality of life.

On the basis of above discussion it may be concluded that because of demographical problems, less facilities, and poor advice, the cardiac patients related to rural background use more avoidance coping strategies than urban cardiac patients.

The second variable of research is gender, varied at two levels, male and female. Present research finding suggests that gender has been found an influencing factor to affect the stress coping strategies. The first findings of the research indicate that male cardiac patients use more approach coping strategies in comparison to female cardiac patients. Second finding presents, male cardiac

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patients use less avoidance coping strategies than female cardiac patients. It means female cardiac patients use more avoidance coping strategies and less approach coping strategies in comparison to male cardiac patients. Hampel, Petra, Petermann, and Franz (2005), also supports these findings. They found that women report lesser use of effective strategies and greater use of selective avoidance, than men. Women reported seeking social support and using emotion focused coping to a greater extent than men, whereas men reported using relatively more problem focused coping than women.

Some previous findings suggest, that pessimistic attitude, less social support, loneliness, less well being are related to the avoidance coping strategies, whereas optimistic attitude, physical ability, well being, quality of life, better social support are related to approach coping strategies (Moos, 1982,). Verma & Devrishi (2005), Shu Chuan Jennifer Yeh et. al. (2008) also found, that women had reported higher stress in response to physical and vessel problems.

Verma & Devrishi (1995) reported that females have been found to become more emotionally upset as compared to male, who confronted the problem and made an attempt to solve it. Lim & Teo (1996) found, with respect to coping strategies female seek more social support than male. It may be a reason that female cardiac patients become more upset than male because of their health problems. Thus, they feel more stressed and have more pessimistic attitude than male. Females present a dependent and passive role towards other persons, because they want to get social support.

From the obtained results and discussion at above, it is clear that gender and locale of CVD patients are significant variables to influence coping with stress. The identified objective is achieved and the two proposed hypotheses are rejected. Findings suggest that CVD patients may be counselled about their stress coping styles to lessen the adverse effects of stress.

CONCLUSION

On the basis of above findings it may be concluded that urban cardiac patients use more approach coping strategies than rural cardiac patients while rural cardiac patients use more avoidance coping strategy than urban cardiac patients. Male cardiac patients use more approach coping and less avoidance coping strategies in comparison to female cardiac patients.

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STUDY OF POSITIVE AND NEGATIVE EMOTIONS IN HEALTHY CONTROLS AND CVD PATIENTS

Suman Balhara and Nov Rattan Sharma***

ABSTRACT

Cardiovascular diseases (CVD) are the leading cause of death worldwide. Substantial reviews of literature have advocated a strong relation between psychological factors and incidences of heart problems. The present paper compares the positive and negative emotions between healthy control group and CVD groups. There were five independent groups with 50 respondents in each group. Positive and negative affect schedule (PANAS) was used to assess positive and negative emotions in each group. As hypothesized, the results of the study indicated significant difference in positive and negative emotions between CVD groups and healthy control group. The results of the study reveal that frequency of negative expressiveness is associated with incidence of CVD. Thus, there is an indispensible need to introduce some emotional regulation program as a part of complete cardiac rehabilitation.

Keywords: Cardiac rehabilitation, Cardio-vascular disease, Positive emotions, Negative emotion, Regulation of emotions.

INTRODUCTION

Health is undoubtedly the greatest asset. The person, who has lost his health, has lost his most priceless possession. Cardio-vascular diseases are the leading cause of death worldwide and have been a cause of suffering for centuries (Moodie, 1923; Sandison, 1967). Speculations about the etiology of heart disease date back to Hippocrates (Aschoff, 1933; Harris, 1973). The World Health Organization (WHO) defined health in its broader sense in 1948 as "a state of

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overall physical, mental, and social well-being and it is not simply the non-presence of disease ". Studies suggested that the repeated negative emotional experiences can result in elevated cortisol levels while reduced dehydroepiandrosterone contributing towards increased risk of CVD (Manolagas, 1979; Parker & Baxter, 1985; DeFeo, 1989). The heart communicates with the brain in two ways — emotions interfere with the brain signals it conveys to the heart and the heart responds to them in a complicated way. However, it is well established that the information conveyed by heart to brain is more in quantity as compared to that brain conveys to it. Many studies have found that the risk of developing heart disease is significantly increased for people who often experience stressful emotions such as irritation, anger or frustration. Such emotions initiate a kind of chain reaction — increase in stress hormone secretion, leading to constricted blood vessels, increased blood pressure, and reduced immunity (Levenson, 1988). Most theorists believe that cognition depicts any emotional trigger involving subjective stimulus appraisals and influences of environment (Lazarus, 1991). Different aspects of emotional experiences are closely related (*e.g.*, see LeDoux, 1996). As we experience negative emotions, heart rhythm patterns become more erratic which travels to the emotion centers where they are labeled as stressful. If one consistently experience such emotions, the result would be strainful to heart and other organs, and would cause some serious health problem (Blascovich, Katkin, 1993). Person's judgment of life satisfaction is also based on overall positive and negative affectivity (Diener & Larsen, 1993). Previous researches have suggested links between negative affectivity and heart disease (Dykema, Bergbower, Peterson, 1995).

A study published in the American Journal of Cardiology showed that cheerful individuals have significantly low probability of heart diseases (Everson, Goldberg, Kaplan, Cohen, Pukkala, Tuomilehto, Salonen, 1996). Several other studies explain cognitive, behavioral and corresponding physiological aspects of emotions (Everson, Kaplan, Goldberg, Salonen, 1997). Harmonious heart rhythms resulting from positive emotions are considered as marker of cardiovascular efficacy and balanced nervous system (Fredrickson, 2000). Recent research in neuroscience and psychology has advocated that emotions are basis to health and well-being. For better management and maintenance of good health, it is very important to consider psychological aspects of the CVD along with the physiological aspects of the disease (American Heart Association. 2000). Existing evidences suggest that positive emotions have the required potential to bring desirable changes in the thinking process and actions of a person, negative appraisals facilitate impulsiveness (Fredrickson, Mancuso, Branigan, & Tugade, 2000). Researches done in the field of physiology revealed that physiological changes are contributed by emotional arousals in order to express evoked behavior (Kiecolt-Glaser, McGuire, Robles & Glaser, 2002). However, definitions of emotions differ widely,

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but most of them emphasized on the cognitive, affective, and behavioral components (Kubzansky & Kawachi, 2000; Kiecolt- Glaser et al., 2002; Gallo & Matthews, 2003)In different cultures, it is observed that when negativity and stress exceeds an individual's coping ability it is manifested in adverse cardiac health (Lewis, 2005).

In addition to many other factors, modern lifestyle is making people psychologically burdened resulting in poor health. INTERHEART study opened several unanswered questions on the pathobiology of the premature onset of myocardial infarction among Indians and calls for the need to developing capacity in clinical research in CHD in India (Ajay, Prabhakaran, 2010). Modern researchers have established a relationship between adverse emotional experiences of individuals and the occurrence of heart disease, particularly cardio-vascular disease (CVD). Unending stress and trauma in the living environment increases vulnerability to alexithymia (Nehra, Sharma, 2012). The incidences of heart problems have significantly increased following occurrence of stressful natural disasters like earthquakes, floods and tsunamis, etc. Moving out of stressful situations by adopting positive emotions can have significantly good effects on cardiac health. Mindfullness-Based Stress Reduction (MSBR) program has significantly reduced physiological and psychological measures in patients with CHD (Parswani, Sharma & Iyengar, 2013). CVD patients possess significantly higher level of depression, anxiety and psychological distress when compared to cancer patients and normal group (Roshan, 2014). A study revealed that use of negative-emotions and negative-relationship language was associated with increased risk of heart diseases as compared to positive-emotion and engagement language (Eichstaedt, Schwartz, Kern, Park, Labarthe, Merchant, Jha, Agrawal, Dziurzynski, Sap, Weeg, Larson, Ungar & Seligman, 2015). It clearly depicts how heart and emotions are linked and how one can take the heart to more efficient state by monitoring its rhythms. In view of above background, present study was planned.

Objective

1. To examine the role of positive and negative emotions in CVD patients and healthy controls.
2. To assess and compare positive emotions of CVD patients and healthy controls.
3. To assess and compare negative emotions of CVD patients and healthy controls.

Hypotheses

1. There would be significant difference in positive emotions among CVD groups and healthy control group.
2. There would be significant difference in negative emotion among CVD groups and healthy control group.

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METHOD

Sample

For the purpose of present study 250 participants were selected on non random basis from government and private hospitals located in Haryana and nearby areas. Five independent groups were formed with 50 respondents in each group. The 4 groups basically consisted of CVD patients diagnosed by physician/ cardiologist and the one group consisted of healthy people without any CVD history or symptoms. Every effort was made to make all the groups comparable in respect to age gender, socio-economic status, duration of illness, etc. except type of disease.

Inclusion criteria

- Age 35-60 years;
- Individuals who are able to read/ understand English;
- Individuals who have had only one heart attack, hypertension, stroke and angina pectoris (within one year of diagnosis)

Exclusion criteria

- Individuals previously exposed to formal psychological interventions; disease or cognitive disability.

Design

A multi- group design was used to assess and compare the respondents on all the study variables:

Group I	*Group II*	*Group III*	*Group IV*	*Group V*
Healthy Controls n=50	Hypertension patients n=50	Angina pectoris patients n=50	Myocardial infarction patients n=50	Stroke patients n=50

Tools

Following tests and tools were used for data collection:

1. **Case History Performa** was developed to obtain information on demographic, clinical, personal and family details.
2. **Positive and Negative Affect Schedule (PANAS):** PANAS constructed by Watson, Clark and Tellegen (1988) was used to assess positive and negative emotions. It has 20 items. Respondents are asked to indicate to what extent, they have experienced each specific emotion in the past week. Each item is rated on a 5 point Likert scale ranging from 1 (very slightly or not at all) to 5 (very much or extremely). There has been considerable support for the construct validity of the PANAS. Furthermore, estimates of internal consistency have been found to

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range from .86 to .90 for the positive affect scale, and from .84 to .97 for the negative affect scale. The PANAS reliability using Cronbach's alpha internal consistency in the present study was =.90.

Procedure

Patients fulfilling the inclusion criteria were informed about the study during outpatient visit to the hospital. Medically diagnosed patients were formally invited to participate and a written informed consent was taken from those who accepted the invitation and eventually participated in the study. Following this, information on case history performa was taken and pre-assessment was done. Following the assessment, five groups were made, four of diagnosed CVD patients and one of Healthy subjects. Participants were contacted individually and good rapport was established with them. General instructions as well as specific test instructions were made clear to them. When the subjects felt comfortable and ready for testing, PANAS was administered to them. They were asked to answer each and every item of the administered questionnaire and participants were ensured that the responses would be kept confidential.

RESULTS AND DISCUSSION

A multi-group design was employed to study the role of positive and negative emotions in CVD. As mentioned above PANAS was administered to all the participants in individual settings and mean and standard deviation scores on positive and negative emotions were worked out on all the five groups independently.

Table 1: Mean and standard deviation (SD) on positive and negative emotions of healthy controls and CVD groups.

Variable		*Group I*	*Group II*	*Group III*	*Group IV*	*Group V*
Positive emotions	**Mean**	28.42	29.70	26.70	26.82	25.16
	SD	6.50	10.43	8.16	6.39	6.67
Negative emotions	**Mean**	14.02	20.96	20.44	22.90	24.84
	SD	6.06	9.83	10.25	9.14	8.60

On comparing the means of the positive and negative emotions, of healthy controls (Group I) with CVD groups, it can be see that the mean of positive emotions of healthy controls is not very high when compared to means of other groups. It means that CVD groups experience positive emotions in same frequency and intensity as healthy control group. But the mean of negative emotions is much lower than means of other groups showing that CVD patients experience negative emotions more frequently and intensely as compared to healthy control group.

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In order to check the statistical differences amongst the groups, one way ANOVA was applied.

Table 2: Summary of Analysis of Variance for positive and negative emotions of healthy controls and CVD groups.

Variable	*Source of variance*	*Sum of Squares*	*df Square*	*Mean*	*F value*	*P*
Positive emotions	Between Groups	608.32	4	152.08	2.50	<.05
	Within Groups	14861.28	245	60.65		
	Total	15469.60	249			
Negative emotions	Between Groups	3335.70	4	833.92	10.53	<.01
	Within Groups	19398.44	245	79.17		
	Total	22734.14	249			

The analysis of variance for positive emotions among CVD groups and healthy control group (as shown in Table 2) do indicate a statistically significant difference. The results say that the CVD group and the non-CVD group differ in terms of measure of positive emotions which means that patients suffering from cardiovascular diseases do not experience the positive emotions in same frequency as that of healthy normal individuals. However, analysis of variance clearly indicate that participating groups do differ significantly on account of positive and negative emotions, but in a multi group situation significant F-value does not guarantee that all the mean comparisons are significantly different. To check the significance of mean comparisons in twin situations, least significant difference (LSD) was used as a post- hoc analysis.

Table 3: Post hoc analyses for positive emotions.

Groups(means)	*I(28.42)*	*II(29.70)*	*III(26.70)*	*IV(26.82)*	*V(25.16)*
I(28.42)	-	1.28	1.72	1.60	3.26*
II(26.70)	1.28	-	3.00*	2.88	4.54**
III(29.70)	1.72	3.00*	-	.12	1.54
IV(26.82)	1.60	2.88	.12	-	1.66
V(25.16)	3.26*	4.54**	1.54	1.66	-

(*p < .05; **< .01)

Further, on comparing the difference of group means for positive emotions, it revealed significant difference in group I (healthy control group) and group V (stroke patients). Also, significant difference existed between group II (hypertension patients group) and group V (stroke patients) (see Table: 3). Moreover, group III (angina pectoris patients) and group II (hypertension patients group) significantly differed in mean differences as revealed in post hoc analysis.

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Thus, on basis of mean comparisons, differences in mean positive emotions can be seen but these differences are not significant in all the groups.

Table 4: Post hoc analyses for negative emotions.

Groups(means)	*I(14.02)*	*II(20.96)*	*III(20.44)*	*IV(22.90)*	*V(24.84)*
I(14.02)	-	6.94**	6.42**	8.88**	10.82**
II(20.96)	6.94**	-	.52	1.94	3.88**
III(20.44)	6.42**	.52	-	2.46	4.40**
IV(22.90)	8.88**	1.94	2.46	-	1.94
V(24.84)	**10.82****	**3.88****	**4.40****	**1.94**	-

(*p < .05 ; **< .01)

Table 4 shows that all the CVD groups significantly differed on scores of negative emotions from healthy control group. Group II (hypertension patients) and group III (angina pectoris patients) are equivalent in the mean scores of negative emotions but also it can be seen through group III (angina pectoris patients), group IV (myocardial infarction patients) and group V (stroke patients) that the mean score is continuously increasing.

Many earlier empirical researches have studied the impact of emotional experiences on disease process. Dykema et al. (1995) concluded that deterioration in negative affect is highly associated with a long- term mortality risk among coronary heart patients. Negative emotional expressions of disgust, dread, fury and jeal-ousy turn out into abrupt physiological responses for instance: throbbing heart, uptight muscles, cold sweat dry mouth, "butterflies" in the stomach, and several other bodily symptoms. Prolonged experience of these symptoms is associated with cardiac complications. Fredrickson (2000) stated that the negative emotions act as health risk factors contributing to disease outcomes. Kiecolt-Glaser (2002) suggested that negative emotions are psychological risk factors that help to predict cardiovascular health. Moreover, Roshan (2014) found that negative emotions if repeatedly experienced cause irreversible damage to cardiovascular health. In light of previous findings, the results of the study are explained. Thus, it becomes essential to formulate and implement some psychological interventions along with other medical services to not only improve cardiovascular health of the patients but also to prevent the most vulnerable population from becoming prey of such leading cause of death. Thus, the need of the hour is to design some emotional regulation program for the patients with cardiovascular diseases. Such intervention programs should be developed as a part of cardiac rehabilitation.

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EMOTIONAL ASPECTS OF CAREGIVERS OF MENTALLY ILL

Meeta Malhotra & Komal Thapa***

ABSTRACT

The current study present insights in how caregiving is experienced by caregivers and what are the emotions experienced by the family caregivers of mentally ill. 75 caregivers were interviewed belonging both to urban and rural areas. The mean age was 44.44 years. Qualitative descriptive design was used. In-depth interviews were done and qualitative inquiry was used to enable the caregiver to articulate their story in personal way. Caregivers in this study reported high level of psychological distress as a result of caring for mentally ill family member and the greatest burden tended to be emotional. Guilt, pain, powerlessness, shame, guilt, confusion, fear, disappointment, anger, anxiety, and frustration are the emotions most frequently reported. Knowledge generated by this research increases the understanding about family caregivers of mentally ill and in the creation of family services tailored to such families. This study also highlights the need to go beyond Psycho education.

Keywords: Chronic mental illness, Guilt, pain, Immune system, Mental illness and Powerlessness

INTRODUCTION

Chronic mental illness has a significant impact on the patient's family and the larger community. Mental illness interferes with one's ability to form and maintain relationships, care for oneself, completes one's education or obtain and maintain employment. The capacity for social relationship is often diminished and employment opportunities are reduced (Lefley, 1987; Schene, van Wijngaarden & Koeter, 1998). These individuals often become dependent on their families and require continued assistance to maintain themselves in the community.

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Patients' relatives experience a range of emotions from loss to grief and guilt and anger. Like the patient they too felt isolated and stigmatized (Lefley, 1987; Wahl & Harman, 1989). Their lives are disrupted by providing more care than would normally be appropriate for someone of the patient's age. In those cases where the reciprocity between family members is out of balance, normal care changes to caregiving. The addition of the caregiving role to already existing family roles becomes stressful: physically, psychologically and economically (Clark, 1994).

Most of the research on the impact of caregiving focuses on 'caregiver burden' a multidimensional construct which includes the physical, emotional, social, and financial cost to the caregiver and most research does conclude that caregiving is associated with significant subjective burden (George & Gwyther, 1986; Snyder & Keefe, 1985).

Demonstrated negative effects of caregiving include physical and emotional strain (White-Means, 1993), increased psychiatric illness, physical symptoms and health care usage (Schulz, Visintainer & Williamson, 1990), depression (Mc Naughton, Patterson, Smith & Grant, 1995), back pain, headache and emotional exhaustion, (Snyder & Keefe 1985), increased use of medication, physical exhaustion and subjective overload Schofield, Herrman, Bloch, Howe, & Singh (1997) adverse affect on the immune system and resulting increase in viral illness (Glaser & Kiecolt-Glaser, 1997) and reduced leisure time (Miller & Montogmery, 1990).

Emotional burden has been more clearly established as a consequence of caregiving. Jutras and Lavoie (1995) found that caregivers' physical health was equivalent to that of controls but their psychological health was significantly poorer. Mui (1995) concluded that the level of emotional strain, rather than physical symptoms or financial burden was the best predictor of poor perceived health and well-beings.

Micro social variables such as existence of social support network and the occupancy of other satisfying roles (Moen, Robison, & Dempster-McClain (1995).), also improved well-being and satisfaction level of caregivers as did provision of community and institutionalized professional support (Bass-Noelker & Rechlin, 1996).

In view of above, it is very clear that emotional aspects of caregivers are adversely affected. Present investigation was planned to study that how caregiving is experienced by the caregivers of mentally ill people.

METHOD

Data for this study was drawn from a larger study completed by the authors that included both qualitative and quantitative method. Qualitative inquiry was used to enable the caregiver to "articulate" their story in a personal way.

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Sample

The sample of this study comprised of 75 caregivers of chronically mentally ill family member. In this study the term caregiver was used to refer to any person 18 years of age or older male or female actively involved in the care of the patient and being with the care recipient in the same house for atleast two years prior to the study. Caregivers with chronic physical illness or with a history of past or current psychiatric consultation were excluded.

Most of the respondents were female *i.e.* 52% and males were 48.0%. 81% of the respondents were from urban background and only 18.7 % were from rural background. The mean age of the participant was 44.44 years. Majority of the patients were the parents of the patients (49.35%), followed by Spouses (13.3%). The percentage of mother caregivers was 33.33, followed by husbands (24.0). Father caregivers were 16% and wife 13.3%. most of the caregivers belonged to middle level economic group. 38.7% of the caregivers had no income and 29.3% belonged to middle income group *i.e.* having income between 3000-10000.

In the case of patients, 64% of the patients were suffering from schizophrenia and 36% of the patients were suffering from other psychoses including mood disorder. 46.66% of the patient had a history of multiple previous disorder and 54% of the patients were never hospitalized.

Tool Used

Data was collected through semi-structured interview. This was necessary as this gave caregivers an opportunity to describe their own experience without any preconceived notions about types of problems they encounter while dealing with mentally ill. A scale of Subjective Burden developed by authors was administered on the caregiver and at the end of the scale administration caregivers were asked one question "what other problems they encounter while caring for patient."

Procedure

Data was collected through semi structured interviews The question was often reframed at the time of the interview to suit the respondent's language, style and educational level. The participants were not interrupted in their narratives and minimum interjections were made. This approach allowed participants to discuss their experience in their own language and in their own way, according to their level of comfort in disclosure. By entering the participants' life world it was possible to access the private meanings of participants.

Analysis

Before analysis was done, data was systematically organized. In this study, as recommeneded by Glesen & Peshkin (1992), codes were used when generating

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themes and as emphasized by them the progressive process of coding, clumping data into major categories categorizing the data within each group of data into meaningful sequence or interrelated pattern. The investigator content analyzed and noted the general theme, identified by the respondents. Content analysis helped in reducing the data to manageable proportions. Content analysis was supplemented with systematic quotations from the interviews to illustrate conclusions (Breakwell, 1995). In the initial analysis, general themes were identified and noted and no attempt was made at discerning positive or negative reactions to the caregiving experience. In the next phase, comments were noted and finally, the responses were categorized by theme group (Patton, 1990).

RESULTS AND DISCUSSION

The main objective of this study was to examine emotional aspects of caregiving. Qualitative analysis was done.

Themes and Implications

From the reviews and studies presented, it is clear that caring for a family member with a chronic mental illness can be both a rewarding as well as a challenging experience. In this study attempt was made to focus on emotional aspects of caregiving. In the content analysis of the qualitative data, seven general themes emerged. These are - (1) Grief (2) Guilt (3) Frustration, Helplessness and Anxiety (4) Exhaustion, Burnout and Resentment (5). Anger and Irritation (6) Loneliness (7) Pity and Compassion

Each theme identified here centres on the caregiver's personal experience with caregiving and the family member for whom care is provided. Following are some of the major emotions experienced by the caregivers as revealed by their narratives.

Grief

In describing their subjective burden, caregivers often referred to their feelings of grief and loss. Indeed, at the core of the caregiving experience was a powerful grieving process that includes the loss of their most cherished hopes and dreams. One of the greatest difficulties for caregivers in accepting the mental illness of a loved one was dealing with a changed future and expectations. This is because the illness results in impairment in functioning and deterioration in personal life. Caregivers thus struggled with accepting the realities of an illness that is treatable but not completely curable. Caregivers mourn for the person they knew before the onset of the illness, and for their personal losses. They feel dejected that future plans may not materialize and feel the loss of the "normal" person and the normal things they did before the illness. Caregivers mourn for the loss of goals and dreams for the patient and family unit. One mother described her reactions when her son was diagnosed as mentally ill, *"...he is lost to us and we can never hope to have same relationship as we used to have."* Or as one father describe his loss of dreams in these words, *"you used to feel that there is no limit to the*

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possibility of his success... such a good boy... so good in studies...what he could be and what he has became."

It is difficult for parent caregivers, when they see peers of their children finish their education, get jobs and have families, while their child is struggling, not able to continue education or find a job. Memories of how he or she used to be make them sad. The grief filled experience involves the loss of the idealized child and his/her transformation into a bizarre\strange human being who needs to be taken care of.

Caregivers grieve for what might have been and find it difficult to focus on the possibilities that remain for their loved one and grieve for the family life that is no longer normal. As one husband taking care of his wife expressed his sense of loss and grief in these words, *"When I see well settled and happy families of others, I feel mine is not. I wish I also have a happy and complete family....attachment that should be there at emotional level is not there, I don't get any attachment and support from her, there is no one to share my feelings.*

From these words it is clear that grief arises due to significant loss, including that of a relationship or role, as well as the loss to the family unit as a whole.

Caregivers felt that the person they knew is gone and his/her place has been taken by a stranger whom they don't know. They are baffled by these changes and grieve for their loved one. This is also supported by a study done by Thara and Srinivason (1997) who reported that many caregivers expressed sorrow and depression due to the mental illness in a relative. The finding of the present study is in agreement with the finding noted above.

Guilt

Guilt was an overwhelming feeling of caregivers and majority of caregivers experienced guilt at some point during the illness. They felt guilty for varied reasons. For example they felt guilty because they are well and the person for whom they care about is so deeply sick. They felt guilty for having caused or added to the problem and for not doing a better job of caring for and supporting the person with mental illness. As one mother remarked, *"If only I wouldn't have send him to hostel, alone by himself... paid attention earlier, may be things would have been different."*

Caregivers also felt guilty for failing to recognize the symptoms and not seeking professional help earlier, and for not being patient. As one father caring for his son said, *"He was all right.... I never knew or realised that he is patient, he was ill for a long time, used to get angry with him... If only I knew that he is not well, and it's not intentional, and all these are symptoms..."*

Caregivers also experienced guilt for not doing enough. As narrated by one mother taking care of her son, *"If I would not have been in service then may be I would have paid much more attention to what he is reading.... what he is doing. I feel all this is because of me. I always feel that I am not able to look after him properly."*

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From these statements of the caregivers, it is apparent that they feel guilty for not doing 'enough'– feeling that they are lacking in their efforts to provide care. Caregivers also felt guilty for a loss or decrease in empathy for the patient, and also because at times they experienced anger at the patient, for wishing they could escape the responsibilities of caring and for feeling trapped.

Sometimes guilt arises when healthy spouse begins to dislike a partner whose personality has changed as a result of illness (Cuijpers, & Stam, 2000).

Caregivers felt guilty whenever they took time off for themselves, not allowing themselves to experience any joy as to do so would be unjust to their affected family member.

From the accounts of caregivers it is clear that feelings of guilt are common and frequently are based on the perceived or actual failure to meet self-expectations. Some of the caregivers also feel guilty if they have to use the service outside the home or place the relative in hospital.

Although guilt is understandable, but often it interferes with doing the best possible job of caregiving and it make them think only about what they did wrong while most problems have many causes.

Frustration, Helplessness and Anxiety

It is difficult for anyone to deal with strange thinking and bizarre and unpredictable behaviour and the experience can be bewildering, frightening and exhausting. Even when the person was stabilized on medication, the apathy and lack of motivation was a source of frustration. A mother mentions how her son, when asked to eat food, looked at the plate for over an hour before making any move to eat it. What was a matter of routine, now seem to take an inordinate amount of time. Even though the mother knew it was not so, she had to fight the feeling that her son was deliberately not doing this one small task.

On analyzing the responses of the caregivers, it became apparent that caregivers have troubles understanding difficulties the person is having, and they tell themselves that the person will "come out of it", if given time, support and encouragement. As time elapses caregivers become frustrated, helpless and sometimes angry as they struggle to maintain a routine that previously had been taken for granted. The caregivers become increasingly frustrated and bewildered because both the ill person, and the family, and even they themselves had no control and no understanding of what is happening. This often results in family going from crisis to crisis. Caregivers express their disappointment, frustration and helplessness in these words, *"I sometimes feel that either I die or he.... Its better to die then to live like this... laghta hai ki kuch kha ke mar jayae," said a mother of a schizophrenic.* Or as one wife said, *"I feel harassed, troubled by thinking again and again about him.... Ab Bhagwan isko lele ya mere ko...there are so many problems due to him that sometimes I feel like eating poison and dying."*

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These words reflect the helplessness and frustration of the caregivers. This does not mean that they had death wishes for their family member but it indicated that their distress, agony and suffering were so acute intense and unbearable that death seemed a better option.

Moreover, caregivers also get frustrated due to the cyclical nature of the illness and just as caregivers feel hopeful during times of stability, they are devastated when a relapse occurs.

The frustration experienced by caregivers were also reported by Chan (1995) who found that caregivers experienced frustration in managing certain kinds of symptomatic and bizarre behaviours, such as self muttering, giggling, hallucination and also withdrawn and passive type of behaviour such as blunted affect, too much sleep and over dependence.

In some cases, disagreement among caregivers and other family members was a source of stress and frustration. This centred on treatment related issues. As one mother said, *"His father believes that his is not an illness... he is just faking it to avoid responsibilities and it's intentional."* Caregivers and in particular other family members were not able to understand patient's symptoms and they complained about it.

From the account of the caregivers it is clear that they are not able to understand who is responsible and this led to frustration, helplessness and lack of control. For most caregivers, helplessness rather than fear is the overwhelming emotion attached to their experience. Caregivers also described feelings of powerlessness, a sense of loss of control over the situation and perceive that their caring will not have a lasting or significant effect.

Exhaustion, Burnout and Resentment

Often caregivers become worn out and discouraged. Providing continuous care to a loved one with a mental illness, they often begin to feel unable to cope with the mentally ill relative who must be constantly cared for. Many times caregivers feel trapped and exhausted by the stress of the daily struggle, especially if the patient is living alone with the caregiver.

Caregivers felt completely out of control. They were at their wit's end as it was impossible to predict what would happen from day to day. This was due to the fact that the patient's behaviour was unpredictable and caregivers said that they could no longer tolerate the abusive behaviour, the threats, the living in constant fear and the constant talk of suicide. As one wife said, *"I get disappointed, tired and fear how I will manage... I now feel I can't take all this ... now feel that children grow up and take care of everything."*

It was found that caring for a mentally ill family member, leaves them too exhausted to give much attention to other family members. This very draining

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experience creates an atmosphere of confusion and resentment, which sometimes results in irreparable damage to the family.

Moreover caregivers at times resented caregiving and felt that it is thrust upon them, and there is no escape from it. They felt trapped in this role with no way out. As one brother put it in these words, *"jakar liya hai dekh rekh ki responsibility ne, ye to karna hi hai."*

The stress experienced was relentless and it was difficult for caregivers to sustain this draining role. For working caregivers, the increased responsibility of household chores, doctor's visits, administering medication etc. produced work overload.

One of the most common causes of caregiver burnout and exhaustion is the role reversal that occurred between aging parents or between spouses. The dynamics that kept the family together suddenly changes and the line that separates parental and the child's role became blurred. Another cause of caregiver burnout is the expectation the caregiver has for the outcome of the caregiving. Often the rewards are intangible and not evident and they also experience lack of control, due to limited finances, little or no family support etc. When the caregivers have unrealistic expectations of the outcome it may lead to inevitable disappointment and frustration.

Stone, Cafferata, & Sangl, (1987) in a study found that the caregiver's gender and Braun and Browne (1998) found that caregivers ethnocultural background often because a significant factor in determining the extent of burnout.

Caregivers' burnout and exhaustion are manifested in countless ways and clinical symptoms include an increase in somatic complaints, such as indigestion, change in appetite and headaches. Other signs include fatigue, weight loss, social isolation or withdrawal, difficulty in concentrating, and an unkempt, dishevelled appearance. A psychological and emotional sign of symptoms of burnout includes irritability, insomnia and social isolation (Stone et. al., 1987).

Anger and Irritation

There were many instances where caregivers experienced intense anger. They were angry when the person they were caring for was demanding or irritating, and friends, family members, or professionals were not supportive. *"I get angry when he does not let me go out alone,"* said a mother caring for her paranoid schizophrenic son. Or as one father expressed his anger towards professionals in these words, *"no one understands... doctor don't listen to me, don't pay attention... just give medicines... no improvement."*

Caregivers were angry not only with themselves but also patients and expressed their anger towards patient in these words, *"bahut gussa ata hai, aghar chotta bacha hota to bahut maarati mai," (I get really very angry, if he would be a small child I would have really beaten him),* said a mother. *"bahut gussa*

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aata hai to man karta hai ki maar de lekhin ruk jaate hai...larka hai,"(when I get really angry then feel like hitting himbut stop..he is boy), said a mother.

Anger is a natural response to a difficult situation and people feel guilty about it. Sometimes caregivers feel that no matter how hard they try, no matter what they do, nothing seems to work. They at times lose their temper, and shout at the patient, but afterwards agonize about the possible consequences on the patient.

Pity/Compassion

Apart from resentment, irritation and anger, caregivers also felt pity and compassion for the patient in their care. They felt that the patient was troubled, helpless and suffering. *"I feel pity for him... he is not able to attain what he wanted, he is troubled, he is helpless. He can't help himself, is helpless.... feel sorry for him,"* said a father. *"I feel bad for him.... If I don't show compassion, who will ... he is my child so I keep him with me,"* said a mother. Or as one caregiver expressed herself in these words, *"seeing his suffering, I feel distressed. Hamdardi to hoti hai par kuch kar nahi paate hai..."*

On analyzing their narratives, it is apparent that seeing the suffering of their loved one is painful for the caregiver. They felt that the bright and promising future of the patient have been aborted and the cruel axe of mental illness have hacked down his/her hopes and dreams, as well as their own hope and dreams. It was found that caregivers not only experience the burdens of providing essential care to their mentally ill loved ones, but they also extensively and frequently witness their loved ones in serious distress and as Jenkins and Schumacher (1999) found that patient misery was burdensome. Many caregivers witness their patient suffer pain and confusion, as Bradely (2003), found that 67% felt that their patient had "had enough." For most caregivers helplessness is a major emotion attached to their experience when they witness distress of their mentally ill relative.

CONCLUSION

While conducting interviews, the researcher was overwhelmed on hearing the details of each caregiver's life story and experiences. The researcher was witness to the pain surrounding the decision to admit one's child in a hospital, the powerlessness of visiting a spouse or child who is in hospital and who is so muddled by powerful medication that he or she can barely speak, the anger that accompanies hating someone you love because of what their illness had done to their family and themselves, the guilt comes from the belief that they might somehow be responsible for another descent into mental illness, the confusion associated with mental illness, the inability to understand symptoms, the disappointment and the grief that a talented son or daughter may never be able to realize their potentials, the exhaustion and burnout that accompanies full time caregiving and the frustration of being unable to do anything to help the person you love. The ambivalence that they had toward their loved one, the pity that

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they had toward their family member with illness, the resentment that accompanies the lack of appreciation from family members and distress that they are undergoing as a result of caring for a mentally ill family member was all evident in the narratives of the caregivers.

Caregivers in this study reported high level of psychological distress as a result of caring for a mentally ill family member. The greatest burden tended to be emotional. The most common feelings experienced by caregivers included guilt – feeling that they are not doing enough for a loved one, or abandoning them by selecting a long term care facility, guilt for letting patients have their own way, even though the caregivers were doing the best job that they possibly could. They also felt guilty if they took time off for themselves. Caregivers experience grief and loss due to patient's illness, as they felt that the patient is lost to them forever, and the person they knew is replaced by a stranger. Pain, powerlessness, shame, guilt, confusion, fear, disappointment, anger and anxiety, exhaustion and frustration are the emotions most frequently reported.

While interviewing caregivers, it was observed that their distress was evident from the way they were talking about their problems and many times they broke down and were not able to control themselves. Whenever caregivers attempted to conceal their emotions – hurt, betrayal, shame, anger and resentment – it was evident from their way of talking and interaction with the patient. They were not willing to talk in front of the patient and the interviewer had to ask the patient to wait outside the room. This was due to the fact that caregivers felt that they would not be able to express their thoughts and feeling freely and honestly in the presence of the patient.

Caregivers in this study reported experiencing a range of emotional responses associated with the caregiving situation mainly grief, guilt, and frustration which is in keeping with research findings (Davis & Schultz, 1998; Miller, & Montgomery (1990). It also involves grief over lost of a loved one, and shattered dreams. Similar findings have been reported by Sveinbjanrdolt & Casterla, (1997).

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RELATIONAL WORLD OF MSM (MEN –SEX-WITH-MEN)

Archana Shukla and Shilpa Singh***

ABSTRACT

The present study endeavors to find out the perceived self-other relatedness among MSM (Men –Sex-With-Men) population. An ex-post facto research with an exploratory orientation was conducted on 50 MSMs. An effort was made to identify the experiential and cognitive construing of the internal world of MSMs. To ascertain this information Circle Technique was made use of. Results revealed that the internal construing of the relational world validates the external reality of abandonment of self in MSMs. The abandonment of self along with dominance of significant others is purely visible in the life space of MSM.

Keywords: Perceived self, Self-other relatedness, MSM, Circle technique and Abandoned.

INTRODUCTION

MSM is a romantic / sexual attraction or behavior between members of the same sex (*i.e.* male). It is an umbrella concept encompassing an array of sexual identities, including gay, bisexual, transgendered, and self-identified heterosexual men who have sex with men (Young & Meyer, 2005). In other words, the term 'MSM' is used to define male persons who engage in sexual activity with members of the same sex.

The terminology of MSM (men-sex with-men) was created in the 1990's by epidemiologists in order to study the spread of disease among MSM population, regardless of identity. The term is often used in medical literature and social

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research to describe such men as a group for clinical study without considering issues of self-identification.

The MSM population in India is estimated to be 2,350,000 in 2009 (NACO,2011) but due to stigma, has remained largely invisible. The sexual transmission of HIV between men is a major cause for concern in many parts of India. HIV prevalence is high among MSM in states such as Maharashtra, Manipur, Karnataka, and Delhi (NACO, 2010).In a study of 51 MSM in Chennai who regularly attended a community-based clinic, 26 percent were clinically diagnosed to have one or more STIs (Verma & Collumbien, 2004)

In 2003-04, a study of 6,661 MSM in urban areas in Andhra Pradesh found that the average number of male partners in the last month was six men. The same study found that in the last three occasions of sex with a male, 92 percent of MSM reported anal sex at least once (Dandona, & Dandona,2005).In 2009, a study of 210 MSM reported psychosocial problems, such as anxiety and depression, attributed to HIV infection or perceived risk of HIV (Thomas & Mimiaga,2009).

Despite the fact that the terminology of MSM has been developed rather recently in the west, it becomes imperative to know that it has been practiced as well as has deep roots in the ancient Indian culture.

While MSM has not been explicitly mentioned in the religious texts, Hinduism has taken various positions, ranging from positive to neutral or antagonistic, Rigveda, one of the 4 canonical sacred texts of Hinduism says *'Vikruti Evam Prakriti'* (what seems unnatural is also natural), which some scholars believe recognize the cyclical constancy of homosexual/transsexual dimensions of human life. Other evidences have been found in sculptures of Khajuraho, The Arthashastra, the Manusmriti (*Ch 8, Verse 370, 369, 367*) and Kamasutra (Danielou, 2011).

Many gay people are in committed same sex relationships. These relationships are equivalent to heterosexual relationships in essential psychological respects. Gay men can live satisfying lives as well as form stable relationships (Kurdek 2001, 2003, 2004; Peplau & Fingerhurt, 2007).Behavioral surveillance shows that MSMs who report marrying a female could range anywhere from 10% to 56% (NACO, 2006).

These studies reaffirm the belief that homosexuals lead a stable life in terms of relationships. There are no empirical studies that support theories attributing same-sex, sexual orientation to family dysfunction or trauma (Bell, Weinberg & Hammersmith, 1981; Bene 1965; Freund & Blanchard 1983; Freund & Pinkava 1961; Hooker 1969;Mc Cord,Mc Cord & Thurber,1962; Peters & Cantrell, 1991; Siegelman 1974, 1981; Townes,Fergusan & Gillam,1976).

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With reference to the relationships of MSMs with significant others, it can be said that the most fundamental relationship is with one's own self. How one relates to one's own self determines as to how one relates with others. Conceptually self-other relatedness may be defined as to how the individual relates with his significant others in his life. As stated by Josselson (1996) relatedness involves other people as object of desire (when we need someone to satisfy a particular need), but relatedness also serves as a context for the experience of the self.

In the light of the above discussion it was observed that there exists a paucity of Indian researches with psychological orientation in this field. Hence this intrigued the researcher to pick up the present study. While going through the review of the literature, some questions evolve in mind *e.g.* what problems do the MSMs face in their daily life? What coping strategies they use to overcome these problems? Is the acceptance by significant others genuine? Is their relationship with family and society affected by their sexual status? How do they view their self in terms of their significant others? What is the role/importance of the partner in their lives? How do they relate to their self and significant others?

Since it is impossible to answer all the questions in a single study, an attempt has been made to answer few of them.

Objective

To find out the perceived self-other relatedness among MSM population.

Sample

The sample was purposively selected and comprised of 50 MSMs from the Naz Foundation and the Bharosa Trust (Hazratganj, Lucknow, India). Both the organizations have been providing technical and institutional assistance to MSM networks, groups, collectives and organizations in South Asia since 1996 to develop their own HIV prevention, care and support services through community-based organizing.

Tool Used

For the present study, Circle Technique (Thrower, Burce & Walton, 1982) was used. The circle technique is a process that allows individuals to draw a schematic diagram of their life space. Circle drawings often illustrates in graphic form, patterns of closeness and distance, of power and decision making of life space. The drawings provide at a glance, an overview of the life space as seen by the person who does the drawings. These drawings serve as a rich source of information concerning family dynamics and interpersonal relations and are useful for setting goals for changes in the life space.

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Procedure

The tool was administered individually in calm and quiet setting. Necessary permission was taken from the administration of both the organizations. The respondent was instructed to draw circles representing self and individuals who according to them are important. The circles may vary in size and may touch or overlap. This will depend on the type and importance of relationship with self and significant others. All the circles were labeled with the initials and the relationship of the person it represented.

The respondents were then asked to explain their drawings. This brings out the features of their life space and their relationship with significant others. Percentages for each dimension was taken out for further interpretations.

RESULTS AND DISCUSSION

Data was analyzed on 6 dimensions, *i.e.* (a) Presence of self; (b) Centrality of self; (c) Size of self; (d) Most dominant person (e)Significant other who emerged in life space and (f)Type of relationship.

A cursory glance at the data showed that, on the dimension of presence of self, 63.3% reported absent self and the rest (36.7%) reported self as present. This denotes that most of the MSM population in the present study reported denial of self in their life space. Their self was abandoned, neglected and deserted in their real life.

The second dimension, centrality of self, pertains to the position of the self in the life space of the person. Placement of self is either at the center point (depicts the control one has in his life) or at periphery (reveals inadequacy and insignificance of self). On this dimension, the self at center was reported by 43.3% population whereas the rest of them (56.7%) reported self at periphery. This denotes that majority of the respondents have an inadequate and insignificant self. They have little control over their life.

The third dimension, size of the self, depicts the dominance of the self in relation to others. In this light when the data was analyzed, 63.3% reported their self as smaller than others, *i.e.* they place major importance to others in spite of themselves. This goes hand in hand with the finding in the previous dimension where majority respondents have placed their self in the periphery of their life space, thus revealing poor hold over one's life and others as overvalued. It shows that majority of them perceived their self as small, weak, insignificant and of course rejected. On the other hand, a small number of respondents *i.e.*36.7% considered their self as equal to others.

On the dimension of most dominant person *i.e.* most important and valued person in life space, it shows that majority of the respondents (60%) showed other as dominant *i.e.* - there was feeling of inferiority towards self, only 40% considered their self as more dominant than others in their life space.

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The responses in which others are dominant portray an inadequacy in self and feeling of inferiority which could be at the base of this finding. In such case others are perceived superior and hold a strong position in one's life in comparison to self. Studies also suggest that MSMs are unconsciously self-pitying persons (Gerard, 1997).

As far as the dimension of significant others (who emerged in life space), friends (40%) were considered most important and significant than self, followed by mother and father (23.36%), wife and relatives (15% each) and brother (6.64%).

Lastly, on the dimension of type of relationship, data obtained shows that enmeshed relationships (43.33%) or fused relationships between self and others was found to be most dominant. In this type of relationship, boundaries between persons are very unclear and members do not clearly separate their own feelings, anxieties, concerns and identities. It was observed that 26.67% had a double dominant relationship, where an issue of power occurs at two parallel levels in the life space while 16.67% had an emotionally divorced relationship. Here, family had a relationship where members are emotionally separated or 'divorced' *i.e.* they are distant and share very few of their emotions. Lastly, the rest of the respondents (13.33%) had a single dominant relationship where an issue of power and hierarchy have great importance.

The obtained results thus, clearly show that most of the MSM deny their own self in their day to day life. They have an insignificant self. For them, their own self is less important than the self of their significant others. They perceive their self as small, weak and insignificant. Also in their life, they give more importance to others than their own self.

CONCLUSION

The obtained results give an insight into the relational dynamics of MSM. It is evident that that the MSM population is characterized by abandoned self. For them, their own self is less important than significant others in their life. The need of the hour is to provide acceptance to the masses at large. An effort must be made to develop sensitivity and empathy among people about the lifestyle and behavior pattern of MSMs Therefore, appropriate intervention should be provided to bring them in the main stream. Further adequate counseling techniques and therapies especially family therapy, group therapy and most important, individual therapy should be used to enhance their self as well as building a balanced relational pyramid in their life. This can mark an introductory step towards understanding the relational world of the MSM population. Josselson(1996) in this regard aptly quotes, "*The need of intensity in relatedness explains in part why people stay in painful relationships. Often it is the conflict that is arousing and makes the person feel connected to another. The fear is not of pain but of being emotionally dead.*"

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PERSONAL EFFECTIVENESS AND DEPRESSION IN DIFFERENTLY-ABLED AND NORMAL PEOPLE

P. Swathi and P. Shanthisree***

ABSTRACT

The present study focuses on Personal effectiveness and Depression in Differently-abled and Normal People. A sample of 30 differently- abled and 30 normal males and females were taken for the study. Their age ranges from 20 to 35 years. The subjects were assessed on Personal Effectiveness Scale and Depression scale. The results revealed significant differences in the level of depression among normal and differently-abled people but no significant differences in the level of personal effectiveness.

Key Words: Personal effectiveness, Differently-abled, Depression scale and Developing behavioural flexibility.

INTRODUCTION

Personal effectiveness means making the most of talents and resources in all of one's endeavours. At the individual level, it promotes happiness and well being. It can be derived through one's work, family or any other means. At the organisational level, it manifests itself in the form of interpersonal effectiveness and group effectiveness. It is considered to be the combination of many factors that are attributed to personal qualities and external influencing factors that work together in harmony.

Personal effectiveness means making use of all the personal resources at our disposal - talents, skills, energy and time to enable us to achieve both work and life goals.

How we manage our self impacts directly our personal effectiveness. Being self-aware, making the most of our strengths, learning new skills and techniques

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and developing behavioural flexibility are all keys to improve our personal performance.

The Johari Window proposes a four quadrant window as a framework for depicting individual personality. 'The basis for this division into quadrants is awareness of behaviour, feelings, needs and the like; sometimes awareness is a shared commodity, and sometimes it is not' (Hall, 1974).

Two basic processes namely (openness to) feedback and (self) disclosure have the potential to cause a redistribution of awareness and changes in both the size and shape of the four quadrants. A major assumption of the model is that as arena becomes larger, the relationship becomes more rewarding and productive (Hall, 1974).

The Personal Effectiveness scale (Pareek, 2002) based on the Johari model of Luft and Ingham (Luft, 1969) is an instrument for assessing dimensions (Openness to) 'feedback' and (Self) 'disclosure'. Just as Hall (1974) points out the need for using both openness and exposure (self-disclosure) to a great and balanced extent, Hersey, Blanchard, and Johnson (2001) also highlight disclosure to be organizationally relevant. Recognizing the problems of Carolesque openness (openness without accompanying sensitivity to others in a situation), the PE scale also includes a third dimension called 'Perceptiveness' (the ability to pick up verbal and non-verbal cues from others) (Pareek, 2002).

A frequency analysis of the dimensions of personal effectiveness indicates that majority of participants perceive themselves to be highly open to feedback from others. This also holds valid for perceptiveness where about 62 percent of them have rated themselves high. In the case of self-disclosure, however, the analysis seems to suggest a reverse trend with majority of participants (61.8 percent) scoring low on the dimension.

Simple frequency analysis of the responses indicates that about one-third of respondents (34 per cent) are categorized under 'Secretive' owing to their low self-disclosure. The next biggest category is that of 'Effective' people (22 percent) who scored high on all three dimensions.

While analyzing the data significant correlations between PE categories and age group as well as educational qualification were found.

Respondents belonging to younger age group, particularly those below 25 years of age seem to have scored high on self disclosure and low on perceptiveness. With increase in age, the scores on the two dimensions seem to be reversing with one age group as an exception. The 41-50 years age group also shows a pattern similar to the youngest age group.

Education categories and PE categories seem to have a correlation. Researchers found that respondents with technical or professional post-graduate qualification tended to be categorized more into PE categories of task-obsessed,

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secretive, insensitive and effective. This indicates higher education as a factor contributing to development of the individual on at least two or all three dimensions of personal effectiveness.

Self – Disclosure

Self-disclosure is a process of communication through which one person reveals himself or herself to another. It comprises everything an individual chooses to tell the other person about himself or herself, making him or her known. The information can be descriptive or evaluative and can include thoughts, feelings, aspirations, goals, failures, successes, fears, dreams as well as one's likes, dislikes, and favourites.

According to social penetration theory, there are two dimensions to self-disclosure: breadth and depth. Both are crucial in developing a fully intimate relationship. The range of topics discussed by two individuals is the breadth of disclosure. The degree to which the information revealed is private or personal is the depth of that disclosure. It is easier for breadth to be expanded first in a relationship because of its more accessible features. It consists of outer layers of personality and everyday lives, such as occupations and preferences. Depth is more difficult to reach, given its inner location; it includes painful memories and more unusual traits that we might try to hide from most people. This is why we reveal ourselves most thoroughly and discuss the widest range of topics with our spouses and loved ones.

Self-disclosure is an important building block for intimacy. Intimacy cannot be achieved without it. We expect self-disclosure to be reciprocal and appropriate. Self-disclosure can be assessed by an analysis of cost and rewards which can be further explained by social exchange theory. Most self-disclosure occurs early in relational development, but more intimate self-disclosure occurs later.

Self-disclosure in Differently-abled Persons

Persons with visible physical disabilities have been historically perceived as "invalids" and not true members of society at large. Fortunately, this trend has been changing in recent years, no doubt in part due to the Independent Living Movement and the 1991 passage of the Americans with Disabilities Act. However, installing ramps and wider bathroom doors solves only the logistical part of integration. What remains are the long held attitudes and perceptions about persons with physical disabilities that act as barriers to effective communication between able-bodied individuals and the disabled.

One way to reduce this social anxiety is through self-disclosure of the disabled person's handicap to the able-bodied participant in interpersonal communication situations (Braithwaite, 1991). Able-bodied people react more positively toward people with physical disabilities who engage in self-disclosure, especially when the information revealed is about the disability (Thompson, 1982).

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Braithwaite conducted interviews of 24 subjects with visible physical mobility disabilities, and asked them to discuss their communication experiences with able-bodied individuals during initial and early encounters (Braithwaite, 1991). It was found that able-bodied persons, despite initial reluctance, usually asked the subjects questions about their disability early on such as: "Why are you in a wheelchair?" (Braithwaite, 1991).

Other times they would ask if it were okay to ask about the disability. The information disclosed by the disabled person didn't have to be at length or in detail, just enough to ease any anxieties and satisfy curiosities. (Braithwaite, 1991).

Perhaps the only exception to this would be the censoring by parents of children who ask similar questions to a physically disabled person out of innocence and curiosity. (Braithwaite, 1991). Able-bodied adults sometimes don't ask the questions they want to because they feel the disabled person might be sensitive, or that the able-bodied person is uncomfortable about the issue of disability because they are afraid of dealing with it in their own life (Braithwaite, 1991). The disabled person usually expects that the subject of their disability will come up and occasionally takes the initiative and self-disclose early on in the interaction. However, some disabled persons delay disclosure until they "can establish themselves as a person first,' rather than being seen as a 'disabled person'" (Braithwaite, 1991).

As with self-disclosure, it is important that disabled individuals assume an active role in changing negative attitudes toward themselves (Kisabeth & Richardson, 1985). In a study involving 41 undergraduate students taking 2 beginning racquetball classes, an ATDP Scale and questionnaire were given. Then, a disabled "student," who was actually one of the authors conducting the research, joined the class in the treatment group (Kisabeth & Richardson, 1985). When the surveys were given again at the end of the experiment, the results indicated that the presence of one disabled person can have a positive impact on changing attitudes toward physical disabilities (Kisabeth & Richardson, 1985).

Openness to Feedback

Many people in today's organizations are uncomfortable speaking their minds because they're afraid of being inappropriately judged, labeled, or punished. Other people in organizations are reluctant to exhibit openness to change because they're afraid of being perceived as weak, uncertain, or lacking conviction. Both fears are debilitating to individuals and organizations.

Creating open environments where opinions are respected, ideas are vigorously debated, and judgments are appropriate is not easy. We have to genuinely care about individuals' thoughts and feelings, not because it's a nice thing to do, but because it creates a vital system of checks and balances for a good interaction.

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Openness to Feedback in Differently-abled Persons

People with mild or moderate disabilities are found to be creative, intellectually curious and attentive to their feelings. Those who score higher on the personality trait openness may be significantly more likely to maintain employment, suggests a new study co-written by David Strauser, a professor of kinesiology and community health at the University of Illinois.

Personality traits were found to be significantly relevant to maintaining employment for people with disabilities who had only a high school education or less, according to a report on the study, which appeared recently in the Journal of Rehabilitation Counseling.

While many studies in business and industrial psychology have explored the relationship between personality traits and employment in the non-disabled population, "We've known for a while that people with disabilities don't lose or fail to get jobs because they lack skills, it's more because of social issues in the workplace," Strauser said. "Personality is not something that's typically analyzed in the areas of disability, special education and rehabilitation research.

And for the majority of people, who have mild to moderate disabilities rather than severe disabilities, personality may be a more robust variable that contributes to employment."

Perceptiveness

It refers to having or showing keenness of insight, understanding, or intuition. Social perception is defined as the study of how people form impressions of and make inferences about other people. To learn about other people, they rely on information from their physical appearance, and verbal and nonverbal communication. They can be ways in which people communicate without words—including through facial expressions, tone of voice, gestures, body position and movement, touch, and gaze.

Depression: It is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings and sense of well-being. Depressed people feel sad, anxious, empty, hopeless, worried, helpless, worthless, guilty, irritable, hurt, or restless. They may lose interest in activities that once were pleasurable, experience loss of appetite or overeating, have problems concentrating, remembering details, or making decisions, and may contemplate, attempt, or commit suicide. Insomnia, excessive sleeping, fatigue, loss of energy, or aches, pains, or digestive problems that are resistant to treatment may also be present.

Depressed mood is not always a psychiatric disorder. It may also be a normal reaction to certain life events, a symptom of some medical conditions, or a side effect of some drugs or medical treatments. Depressed mood is also a primary or associated feature of certain psychiatric syndromes such as clinical depression.

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Causes of Depression

Depression is an extremely complex disease. It occurs for a variety of reasons. Some people experience depression during a serious medical illness. Others may have depression with life changes such as a move or the death of a loved one. Still others have a family history of depression. Those who do may experience depression and feel overwhelmed with sadness and loneliness for no known reason.

Depression in Differently-abled Persons

Depression and disability may go hand in hand, depending upon the support system that an individual has. Friends, family members and support groups are all part of a good support system that a differently-abled individual needs. While some people seem very independent and don't seem to need anything or anyone, having a person or group of people to rely on when things get tough can help disabled people combat depression.

For the recentlydisabled, depression is very common. They have gone from being able-bodied to perhaps being someone that has to depend on assistance from others. They may be struggling with their memories of being able bodied, and trying to accept their current physical or mental limitations. Acknowledging a new disability isn't always easy; for many, it can take years to fully accept that they are disabled and can no longer do some, or many, of the things they once enjoyed doing. It is normal for them to feel sad or angry as they are grieving the loss of their former life.

Some individuals are disabled at birth. They may have a disability that was a result of being born, or a genetic problem that causes their disability. While some may argue that being disabled from birth somehow makes things easier, such as developing coping mechanisms from an early age, others do not share the same view. Those who are disabled at an early age may spend years struggling to find acceptance with their peers and teachers.

Problem

To find out the level of personal effectiveness and depression in normal and differently-abled people.

Objectives

1. To study the difference in the level of personal effectiveness between normal and differently-abled people.
2. To find out the difference in the level of depression between normal and differently- abled people.
3. To study the relation between personal effectiveness and depression between normal and differently-abled people.

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Hypotheses

1. There will be difference in the level of personal effectiveness between normal and differently-abled people.
2. There will be difference in the level of depression between normal and differently-abled people.
3. There will be correlation between personal effectiveness and depression of normal and differently-abled people.

METHOD

Sample

The present study consists of 30 differently- abled and 30 normal people. Their age ranges from 20 to 35 years. The sample includes both men and women. The differently- abled sample is collected using purposive sampling technique and the normal sample is collected using random sampling technique.

Tools Used

- Personal Effectiveness Scale developed by Udai Pareek(2002).
- Depression scale developed by WHO

Procedure

The researcher has taken the permission to collect the data from the differently- abled people like physically challenged, hearing impaired and visually challenged. The rapport was established with them and then the personal effectiveness scale is administered. After a gap of ten minutes depression scale is administered. The same procedure is followed with the normal sample.

RESULTS AND DISCUSSION

Table 1 shows the level of personal effectiveness on different components among normal people. It is found that normal people are found to be high on openness to feedback and perceptiveness (55%) compared to self – disclosure (27.91%).

Table 1: Level of Personal Effectiveness among Normal People

Components of Personal Effectiveness	*High*	*Low*
Self-disclosure	27.91%	77.5%
Openness to feedback	55.0%	52.5%
Perceptiveness	55.0%	52.5%

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Table 2: Percentage of Normal People with Different Personality Types

Personality Types	*Percentage of Normal People*
Ineffective	30.23%
Secretive	23.25%
Task Obsessed	16.28%
Effective	6.98%
Egocentric	4.65%
Lonely Empathetic	11.63%
Dogmatic	6.98%

Table 2 reveals the percentage of normal people with different personality types. The results indicate that 30.23 % are ineffective, 23.23% are secretive, 16.28% are task obsessed, 11.63% are lonely emphatic, 6.98% are effective and dogmatic and 4.65% are egocentric. From the above results it can be concluded that most of the normal people have ineffective and secretive personality types.

Table 3: Level of Personal Effectiveness among Differently -abled People

Components of Personal Effectiveness	*High*	*Low*
Self-disclosure	27.5%	72.50%
Openness to feedback	67.5%	32.50%
Perceptiveness	27.5%	72.50%

Table 3 indicates the level of personal effectiveness among differently -abled people. It is found that differently -abled people are found to be high on openness to feedback (67.5%) compared to self- disclosure and perceptiveness (27.5%). The results show that most of the differently -abled people are low on self-disclosure and perceptiveness.

Table 4: Percentage of Differently- abled People with Different Personality Types

Personality Types	*Percentage of Differently-abled People*
Ineffective	15%
Secretive	7.50%
Task Obsessed	37.50%
Effective	25%
Egocentric	10%
Lonely Empathetic	5%

Table 4 shows that 37.50 % of differently- abled people are found to be task obsessed, 25% are found to be effective, 15% are found to be ineffective, 10% are found to be egocentric and 7.50% are found to be secretive.

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Table 5: Differences in the Level of Personal Effectiveness among Normal and Differently-abled People

Components of Personal Effectiveness	*Normal People Mean*	*SD*	*Differently abled People Mean*	*SD*	*t-ratio*
Self-disclosure	8.47	3.06	9.1	2.23	0.91
Openness to feedback	11.44	3.87	11.3	2.56	0.16
Perceptiveness	10.44	3.07	9.52	2.75	1.23

Table 5 shows that the mean of self –disclosure for normal people is 8.47 and that of differently-abled people is 9.1. The SD for normal people is 3.06 while that of differently- abled people is 2.23. The t-ratio is 0.91 which indicate that there is no significant difference in the level of self- disclosure among normal and differently -abled people.It also shows that the mean of openness to feedback for normal people is 11.44 and that of differently - abled people is 11.3. The SD for normal people is 3.87 while that of differently- abled people is 3.07. The t-ratio is 0.16 which indicate that there is no significant difference in the level of openness to feedback among normal and differently- abled people.Table 5 also indicates that the mean of perceptiveness for normal people is 10.44 and that of differently abled people is 9.52. The SD for normal people is 3.07 while that of differently- abled people is 2.75. The t-ratio is 1.23 which indicates that there is no significant difference in the level of perceptiveness among normal and differently-abled people. Thus, the hypothesis there will be difference in the level of personal effectiveness between normal and differently abled people is rejected.

Table 6: Level of Depression among Normal People

Level of Depression	*Percentage of People with Depression*
High	5%
Moderate	32.5%
Low	70%

Table 6 shows that 70% of the normal people are found to have low level of depression, 32.5% of the people are found to have moderate low level of depression and only 5% of them are found to be high in their level of depression.

Table 7: Level of Depression among Differently-abled People

Level of Depression	*Percentage of people with level of Depression*
High	7.50%
Moderate	65%
Low	27.50%

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Table -7 reveals that 65% of the differently -abled people are found to have moderate levels of depression, 27.50% are found to be low in depression and only 7.50% are found to have high levels of depression.

Table 8: Differences in the Level of Depression among Normal and Differently-abled

Sample	*Mean*	*SD*	*t-ratio*
Normal	11.47	7.47	3.33
Disabled	18	7.79	

Table 8 shows the mean, SD and t-ratio for the normal and differently- abled people on the level of depression. The mean and SD for depression in normal people is found to be 11.47 and 7.47 while that of differently- abled people is 18 and 7.79.The t-ratio is found to be 3.33 which indicate that there is significant difference in the levels of depression among normal and differently-abled people. Thus, the hypothesis there will be difference in the level of depression between normal and differently abled people is accepted.

Table 9: Correlation between Personal Effectiveness and Depression among Normal People

Personal Effectiveness	*Depression*
Self-Disclosure	0.31
Openness to Feedback	-0.1
Perceptiveness	-0.11
Depression	-

Table 9 shows the correlation between personal effectiveness and depression among normal people. The table reveals that there is low correlation between personal effectiveness and depression. The results indicate that the relation between self-disclosure and depression is positive but low correlation while the relation between openness to feedback and depression, and between perceptiveness and depression is found to be low but negative correlation.

Table 10: Correlation between Personal Effectiveness and Depression among Differently-abled People

	Depression
Self-Disclosure	-0.2
Openness to Feedback	-0.1
Perceptiveness	-0.2
Depression	-

Table 10 shows the correlation between personal effectiveness and depression among differently - abled people. The table reveals that there is low correlation

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between personal effectiveness and depression. The results indicate that the relation between self-disclosure and depression is low and negative while the relation between openness to feedback and depression, and between perceptiveness and depression is found to be low but negative correlation. Hence, the hypothesis there will be correlation between personal effectiveness and depression of normal and differently- abled people is rejected.

CONCLUSIONS

- There are no significant differences in the level of personal effectiveness among normal and differently- abled people.
- There are significant differences in the level of depression among normal and differently- abled people.
- There is low correlation between personal effectiveness and depression among normal and differently- abled people.

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BOOK REVIEW

Psychological Correlates of Cardiovascular Diseases

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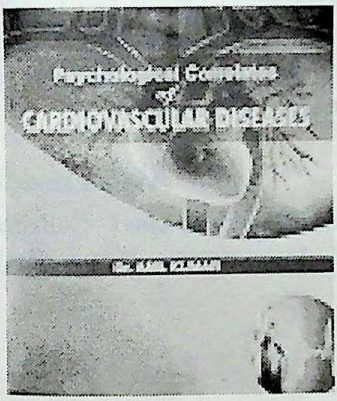
Research India Press, New Delhi. 2013

Rs 595/-, ISBN: 9788189131838



India is undergoing an epidemiological transition and is on the threshold of an epidemic of cardiovascular disease (CVD). Today, CVD is one of the leading causes of morbidity and mortality worldwide as well as in India. It has outgrown the boundaries of age, gender, socio-economic status, area of dwelling etc. In addition to the increasing incidence of CVD, the early age at which it manifests have also escalated significantly which means losing more productive people to these diseases. The epidemics of CVD have accelerated globally, principally a sharp rise in developing countries.

There are several factors that explain the recent emergence of cardiovascular disease as an epidemic in developing countries. The contributory causes include demographic shifts, lifestyle changes due to urbanization, delayed industrialization, overpowering globalization, under nutrition, gene-environment interactions, personality, perceived stress and other psychological factors.

The book entitled Psychological correlates of cardiovascular diseases focuses on psychological variables like negative affect, perceived stress, learned helplessness, competitive achievement orientation and social support among CVD patients. This book provides good conceptual and theoretical background of cardiovascular diseases in chapter I. The chapter two includes significant studies and articles that have enriched the body of knowledge under review maintaining the focus established in the Introduction chapter. The book also takes into account

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data based research in the following chapter. The author for the present research work grouped a sample of 300 males into 4 groups, out of whole 3 groups consist of patients of Myocardial Infarction, Angina Pectoris and Hypertension and one group included healthy comparable participants. The current perusal suggests that negative affect, perceived stress, learned helplessness and competitive achievement orientation were significantly higher in CVD patients then normal healthy individuals.CVD groups differed on perceived social support and Myocardial Infarction scored lowest on perceived availability of social support.

Every research has its own limitation, this might be because it is not possible for any researcher to bring the whole perspective of a particular area in one fine study. The present research endeavor also suffers from some of the limitations like size of the sample is limited moreover it only includes males as participants, leaving females, in whom CVD develops few years later but is still the major cause of death. The author has totally relied on self-report measures to gather information and there is always a question as to whether or not self-reports measure are valid and reliable.

However, this book is a good source of knowledge for all the health professionals working with cardiovascular patients. This piece of research work is valuable for the researchers and psychologists in designing and developing psychological interventions for patients with cardiovascular diseases.

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